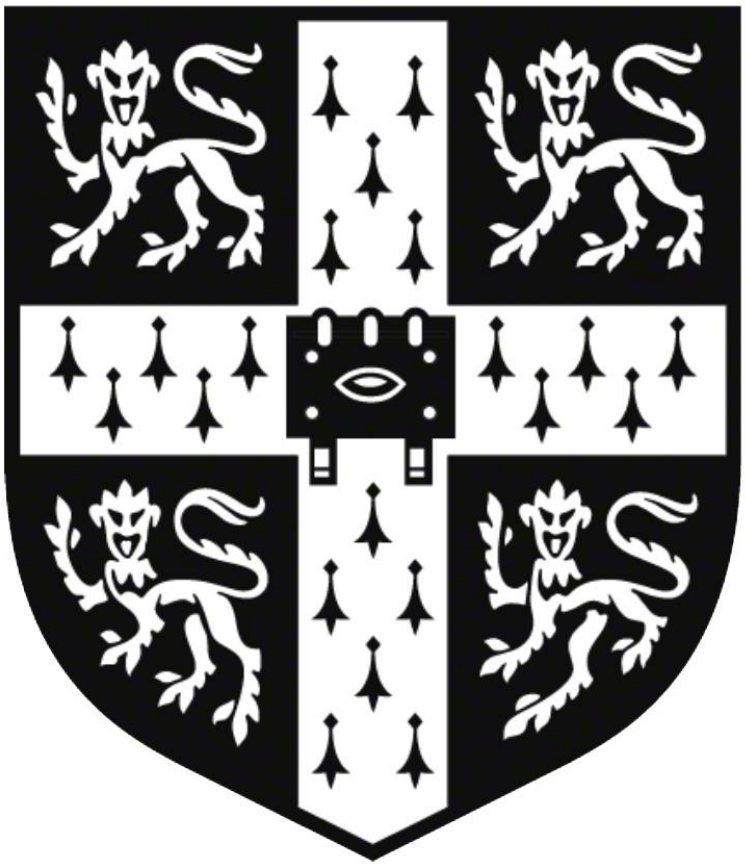
Burial Practices in Transition

A study of the cultural and religious cohesion of early medieval Europe



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Preface

This dissertation is the result of my own work and includes nothing which is the outcome of work done in collaboration except as declared in the Preface and specified in the text. It is not substantially the same as any that I have submitted, or, is being concurrently submitted for a degree or diploma or other qualification at the University of Cambridge or any other University or similar institution except as declared in the Preface and specified in the text. I further state that no substantial part of my dissertation has already been submitted, or, is being concurrently submitted for any such degree, diploma or other qualification at the University of Cambridge or any other University or similar institution except as declared in the Preface and specified in the text. It does not exceed 80,000 words.

Burial Practices in Transition: A study of the cultural and religious cohesion of early medieval Europe

Emma Claire Brownlee

Abstract

In the seventh century AD, burial practice fundamentally changed across northern and western Europe, transitioning from burial with varying provision of grave goods, to a standardised, simple burial, with no accompanying objects. This was a process that happened around the same time across many areas of Europe, but previous studies into the transition have been constrained by modern national boundaries, resulting in quite different explanations being proposed for the same process in different countries.

I have analysed data from a sample of 246 cemeteries from England, France, Germany, Belgium, Switzerland, and the Netherlands. I used GIS and basic statistical analysis to map the changing use of grave goods over the sixth to eighth centuries, looking at numbers, and types of objects placed in the grave, as well as where objects were placed in relation to the body. By analysing these processes at a variety of scales, from continental, to individual sites, I assessed how local communities fitted into broader networks of social change.

This analysis revealed that although the abandonment of grave goods was a drawn-out process, it began in almost every region around the middle of the sixth century. I argue that there was a link between this process and the contemporary development of Christian thought on death and the afterlife, influenced by events such as the Justinianic plague, which affected Europe from the mid-sixth century onwards. This in turn inspired a change in the perception of the corpse; from the continued embodiment of the person which was capable of maintaining possession over select objects, to more of an object itself, devoid of possessive agency.

Finally, I use globalisation and diffusion theory to argue that this change was evidence of strong cultural and religious connections across early medieval Europe, which made the rapid transmission of cultural practices possible.

Acknowledgements

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This would not have been possible without the support of many friends, in the archaeology department, Pembroke GP, and the Ancient Literature Society. You are too many to name individually here, but Amber Moss deserves a special mention. Finally, thanks to my sister, Sarah, and to my parents, without whose support none of this would have been possible.

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1. Introduction: Burial, Early Medieval Identity, and Chronology

Funerary practices for much of the early medieval period were characterised by the provision of grave goods; during the fifth and sixth centuries AD, the dead were accompanied into the grave by a wide range of different object types across large parts of northern and western Europe. By the late eighth century, though, grave good deposition had become rare; very few people were buried with objects, and when this occurred it was usually only one or two personal items. Over the course of the seventh and eighth centuries, a fundamental part of the funerary ritual was abandoned. Despite several scholars noting the apparent contemporaneity of the abandonment of furnished burial across large parts of western Europe, no attempts have thus far been made to systematically compare the processes across the entire region, with studies instead being focused on smaller regions defined by national boundaries. Yet taking a large-scale approach has the potential to illuminate the way in which geographically disparate areas were linked by shared cultural, religious, and economic circumstances.

Archaeology in the early medieval period has long been, and to a large extent still is, dominated by national traditions. Differing methodological and theoretical trajectories, as well as language barriers mean that there is little discussion across linguistic boundaries (Halsall 2010, 15, Härke 2000, 16). Such methodological nationalism developed in the nineteenth century, and affects the archaeology of many time periods, not just early medieval (Pitts and Versluys 2014, 7). Traditionally, the study of the early medieval period in Germany was shaped by the written evidence and retained almost an entirely culture-historical approach, having a 'complete absence of theoretical discussion' until the late 1980s (Härke 1991, 187). German archaeology has thus been characterised by detailed records, typologies, and chronological studies, but the theoretical interpretation of those records is a relatively recent development. In medieval studies in particular, simplistic interpretations, where different classes of material culture equated to different ethnic groups, have been privileged over more theoretical approaches, until recent, more reflexive work (e.g. Brather 2004). British archaeology, meanwhile, privileged ethnographic comparisons as a means of explanation, and was more concerned with theoretical debates (Härke 2000, 15), which meant that while the link between mortuary display and social identity has been heavily debated, issues such as the construction of precise chronologies which so dominated German research, has been less of a focus. British medieval archaeology, for a long time seen as the 'handmaiden of history', has largely rejected a historical framework for interpretations (Halsall 2010, 12). In contrast, archaeological research into the medieval period in France has

been heavily reliant on the written records (Halsall 2010, 13-14). In France, research into the early medieval period virtually halted after the First World War (Fehr 2002, 181), and French prehistory has always received more attention than the medieval period, but French approaches to the medieval period have tended to take a more material historical approach (Sayer 2013b, 149). Dutch and Scandinavian archaeology have combined approaches from both British and German archaeology, and thus remained relatively aware of comparative developments in neighbouring regions (Härke 2000, 16). Thus, while existence of very similar contemporary processes have been noted in both the Anglo-Saxon and Merovingian worlds (e.g. Halsall 2010, 279), little attempt has been made to understand the extent to which the changing funerary practices may have differed or shared similarities across all of these regions. Yet examining these regional variations has the potential to illuminate not just a shared funerary ritual, but the extent to which early medieval Europe can be said to have a shared culture more broadly, and the extent to which close cultural connections existed between different geographical areas.

In recent years, an increasing number of projects have emerged attempting to counter these national and linguistic boundaries, and to study contemporary processes at a European scale. Numerous projects are currently underway which seek to cross national and linguistic boundaries; the work of Kate Mees (University of Durham) comparing the landscape settings of cemeteries, Toby Martin (University of Oxford) on brooch styles, and Alison Klevnäs and Astrid Noterman (University of Stockholm) on grave reopening. As with any research, contemporary concerns are an inevitable influence (Gerrard 2013, 2), and this increasing emphasis on research across national borders, particularly research emphasising the historical links between Britain and the continent, can be seen as a response to an increasingly nationalistic and xenophobic political discourse in the years leading up to the 2016 referendum on the UK's membership of the European Union, and subsequent fall-out. The early medieval period, as a period to which many nation-states trace their origins, has particular importance for the construction of national identities. Thus archaeology which seeks to understand issues of identity and ethnogenesis is also at risk of manipulation to serve current political purposes (Insoll 2007, 13). An analysis of Facebook commentary on Brexit found that more parallels were drawn with the Roman period than the early medieval period, but the 'barbarian migrations' at the fall of the Roman Empire were often referenced in anti-migration rhetoric (Bonacchi et al. 2018, 181, 185). In such a political climate, any discussion of 'European' culture has the potential to become affected by modern concerns, so much so that Brophy (2018, 1650) coined the phrase the 'Brexit hypothesis', which states that almost any archaeological research can be exploited to argue for or against Brexit. There are many

who would like to construct an image of Europe as a unified entity with a continuous history (Jones 2007, 44); similarly it is in the interests of others to present it as a disparate collection of nation states. The Europe of the early medieval period is not the Europe of today, and we must be careful not to present our work in such a way that it invites inappropriate parallels to be drawn, nor should we expect immediate changes in public attitudes following the dissemination of such research (Bonacchi 2018, 1660, Brophy 2018, 1653). Yet it is impossible to escape the political climate in which this research is taking place, and we should not shy away from its political implications, but should welcome our ability to participate in political debates, through a unique long-term cultural perspective (Gardner 2017, 6; 2018, 1662).

I take the perspective that studying changing funerary practices does not just tell us about the identities of the living, but also about the changing position of the dead within that society. I therefore combine the archaeological perspective gained from cemeteries with written sources about contemporary thought around the afterlife and death, situating the changes seen in the funerary record with the evolving Christian debate around the fate of the soul.

In the rest of this introductory chapter, I will lay out the theoretical background to the study of identity through funerary practice, and how this has been applied in an early medieval context, before discussing the chronological research on which any study of change over time must necessarily be based. I have focused primarily on the regions where furnished burial was most common; the largely unfurnished cemeteries from western Britain and around the Mediterranean have not been included in my analysis, but the funerary customs are discussed here to provide a broader context. Chapter 2 will present the results of my large-scale GIS analysis, showing how the provision of grave goods contracted into increasingly small areas over time, and then discusses the evidence for networks of contact which may have provided the means for such ideas to spread. By taking a large sample size of over 33,500 graves, small-scale variations have been glossed over so that broader trends in grave good use across time and regions can emerge. I consider these smaller-scale variations in Chapter 3, where I divide the sample into eleven regions, and use statistical methods to examine the nature of intra-regional variability within them, as well as examining in more detail the way in which different types of grave goods were used. Chapter 4 narrows the focus even further, looking at individual case-study cemeteries from most of the regions, to refine the chronology of the change further. In this chapter, I also look at gendered differences, and where objects were placed in the grave. This provides a way of understanding how decisions made at the local level about how to bury the dead can coalesce to become large-scale societal change across

multiple groups. Finally, Chapter 5 brings the archaeological evidence together with written evidence for attitudes towards death, and for contemporary events which may have affected those attitudes.

1.1. Burial and Identity

Burials have commonly been used as a means of understanding the types of identities present in a society, and while the concept of burials as a static reflection of the identity of the deceased during life has long been critiqued, burials remain an important source of information for understanding both mortuary identity and the idealised societal identities of those doing the burying. Interpretations of burial in the medieval period have moved away from viewing variations as simple reflections of ethnic identities, but this does not mean they have nothing to tell us about group identity. Similarities between burials can be used to indicate cultural unity originating in repeated rituals and ceremonies which are unique to a society (Baker 2011, 11, 12). It is therefore worth first discussing the nature of the link between burial and different types of identity.

1.1.1. Group Identities

Identity is made up of many different aspects; this can include gender, age, status, ethnicity, religion, and kinship relations, all of which come together to form an overarching 'identity'. Identity can be studied at different levels; the individual, but also the group, be that a cultural, social, or political group (Larsen 1995, 256). As such, identifying one aspect of identity for study can be difficult, as it is a composite of many different factors which cannot necessarily be isolated from each other. There is also a distinction to be made between the individual perception of the self, and the way in which that person is viewed by external individuals (Sayer and Williams 2009, 1). Identity is not something which is static; it can change over an individual's lifetime, with age, but also as an individual's relationship with the broader group might change and evolve. An identity is something that is constructed through practice and relationships with other people (Sayer and Williams 2009, 2). This is not to say that identity can be chosen freely; it can be ascribed according to biological, cultural, and social norms (Insoll 2007, 4). The use of material culture as an active component of social relationships is something which is also key to the construction of identity, acting as both a symbol of someone's identity, particularly their associations with a particular group, but also as something which actively constructs identity through its use.

It is important to distinguish between the individual identity discussed above, and group identity (Diaz-Andreu and Lucy 2005, 1). Indeed, group identity could have been considered more significant than individual identity in past societies, given the relatively modern origins of the concept of individuality (Insoll 2007, 14). Perhaps a different way of thinking about it is to think of the individual not as a bounded person, but as someone whose identity is formed from the relationships they have with others, not just other individuals, but also other groups

within a society as well as the society itself (Gillespie 2001, 75). This is their 'personhood', the condition of being a person (Fowler 2004, 7). Group identity can be defined as the 'identification with broader groups on the basis of differences socially sanctioned as significant' and is linked to a sense of belonging (Diaz-Andreu and Lucy 2005, 1). There is no limit on the size of the group in question, which can be regional, national, or supra-national, and these are not mutually exclusive groups; identity can be multi-scalar, with one individual identifying with communities of multiple different sizes (Jones 2007, 44, Semple et al. 2017, 19). As with other forms of identity, such association with a group is not static throughout a lifetime, but is flexible, and undergoes continual renegotiation; an individual must continually engage with the group with whom they identify in order to maintain this group as a part of their cultural identity (Diaz-Andreu and Lucy 2005, 1-2). While the groups we identify with are potentially a matter of choice, they are also constrained by cultural boundaries (Diaz-Andreu and Lucy 2005, 2). Community identities are just as flexible as individual identity is, so that what it means to belong to a particular community changes over time (Broome 2015, 61). Community is an identity which is as much located in the minds of the individuals who constitute it, as it is in any external reality; hence there are circumstances where it may not be recoverable archaeologically (Jones 2007, 52, Pohl 2003, 6).

The most common form of group identity discussed archaeologically is ethnicity. Individuals can identify with a range of different ethnic and communal groups at the same time, from families to larger territorial groupings, with different aspects of such group identities being emphasised depending on context (Lucy 2005, 97, 100, 109, Hakenbeck 2007, 25). Although, for example, there are similarities in the burial rites across most of fifth- to sixth-century western Europe, smaller differences in the types of objects, and the way they were used, suggest smaller-scale variations in identity (Hakenbeck 2011, 26). Initial approaches to ethnicity were rooted in a culture-history tradition, where the distribution of different types of material culture was used to plot the territories of different ethnic groups (Hakenbeck 2007, 19). However, this over-simplistic reading of material culture has now been replaced by more sophisticated understandings of ethnicity which view it as subjective, and variable depending on context (Geary 1983, 18). It is not the material culture itself, but the way in which it is being used which is of most importance in the construction of ethnicity, although the way in which it is used must be recognisable to the intended audience (Lucy 2005, 87, 91, 96). It now largely goes without saying that ethnicity and group identity are constructed on the basis of ideas of shared origins, rather than on any biological reality. Ethnic groups can also be defined not so much in terms of their similarities and common practice, but in the way in which they differentiate themselves from other groups; constant communication between

different groups means that the way in which ethnic identity is displayed is constantly changing as a result of this communication (Lucy 2005, 96).

The relationship between individual and group identities, and the way in which the two influence each other is something which has been heavily debated. This can be summed up as a shift from a holistic theory, to an individualist theory, to agency theories which attempt to bridge the two. Holistic theories consider society as something which exists separately to the individuals who compose it, and which restricts the thoughts and actions of those individuals; individualist theories lie at the other end of the spectrum, and relies entirely on individuals to explain how societies function (Gillespie 2001, 73). Agency theory, which draws much of its inspiration from the work of Bourdieu and Giddens, sees society and the individuals within it existing in a dialectic relationship, both influencing each other (Diaz-Andreu and Lucy 2005, 5). Bourdieu's (1977) theory of *habitus* has been particularly influential. Ethnicity is something produced in competition between different groups who wish to define themselves in relation to each other; it is therefore a result of the disturbances to habitus which occur when groups come into contact with other groups whose habitus may be quite different (Jones 2007, 49-51).

Many of the historically identified 'communities' identified using traditional archaeological methods are in fact a creation of archaeological classifications, rather than reflecting any historical reality (Brather 2002, 170). There is a risk in assuming that ethnic identities existed in the past in the same way we expect them to in the present; while it is likely that some form of group identity existed, referring to it exclusively as 'ethnicity' presents a pre-conceived idea in the mind of both the researcher and the reader of the form this identity took. The role of the archaeologist should be to prove that 'ethnic' identities existed in a certain context, rather than to start from the assumption that they did (Insoll 2007, 4).

There are some risks that need to be avoided in the study of community identities on a very large scale; no group is homogenous, and the risk of looking at a community identity on the scale of Europe is that it ends up masking the rich variation and heterogeneity that exists within it. To obscure this variety is to be at risk of 'Occidentalism', a reductionist view of the western world as being structured by a uniform Christian ideology, that bears little resemblance to the reality (Insoll 2007, 8). But nor should we ignore the similarities which did exist at a broader scale. While it is a fallacy to talk about a single continental identity, focusing too much on local variation risks hiding the common cultural practices which do exist across wide areas (Stylegar 2017, 402).

1.1.2. Burials and Identity

How, then, is it possible to access a fluid, shifting sense of identity through the static remains found in a grave? Burials are a unique kind of archaeological deposit, in that they are the only deposit in which we can encounter a person with the material culture and material traces of practices that were deliberately associated with them (Sayer and Williams 2009, 3). It is important to remember that although we have a static set of remains, the grave itself is the result of a dynamic series of funerary rituals, many of which may not be recoverable archaeologically, but which were as meaningful as the material evidence we can recover (Gillespie 2001, 77). Objects may have been placed in the grave not all at once, but as the result of several different processes of different durations; the selection of personal objects potentially being different to the construction of the tomb, for example (Olivier 1999, 126-7).

The study of identity through burial practice has moved from initial, simplistic 'common-sense' reading of the data, to a more sophisticated, contextual, approach. The history of mortuary interpretation has been summarised more fully elsewhere (e.g. Bartel 1982, Carr 1995). There is not a simple and direct relationship between the identity which is displayed in the burial practice, and the identity which an individual may have held in life. Firstly, the burial is a means of shifting the identity of the deceased, from a living, active member of the community, to a social memory, and restructuring the new relationship between the living and the newly deceased (Gillespie 2001, 78, Sayer and Williams 2009, 3). As such, the burial is not a display of the identity which was held in life, but plays an active role in creating a new, mortuary identity. In some instances, the burial ritual may involve the deliberate erosion of the individual's identity during life, as they become a member of the collective ancestors (Gillespie 2001, 78). But the loss of an individual from society also changes the identity of those still living, as relations among them have to be reconfigured. Mortuary rituals provide a means of bringing the community together to achieve this (Fowler 2004, 81). In the majority of cases, a society does not employ one single type of burial rite (Ucko 1969, 270), and therefore reading group identities directly from burial practices has its limitations. However, the types of material culture used in burials, and more specifically the way in which those objects were used, can express both regional identities, and local variants on it (Hakenbeck 2011, 145).

Other aspects of identity which can be identified through burial include age, gender, and status. These should not be considered discrete categories; and in many ways intersect with ethnicity and other forms of identity. Hakenbeck's (2011, 143) study of Bavarian cemeteries demonstrated that female burials most clearly demonstrated small-scale local differences,

while male burials more clearly showed broader regional affiliations. A consideration of the intersections of different types of identity is thus vital.

1.1.3. Burials, Belief, and the Afterlife

The extent to which religious beliefs and beliefs about the afterlife can be identified through burial practices is a much debated topic. Religion received little attention as a potential factor in mortuary variability between the 1960s and 80s, probably as a result of processual archaeology favouring the more 'tangible' social structure, over the less accessible ideology and religious beliefs (Carr 1995, 166).

It is impossible to identify for certain the religion of the individual through their funerary treatment; there are too many other factors which can affect burial, and too much variation even within the practice of one religion. As with other facets of identity, we need to recognise religion as something which is culturally constructed, and therefore subject to fluidity and individual interpretation; religion also cannot be easily separated from other forms of identity (Edwards 2005, 121). Ucko's (1969) study of burials from a broad, cross-cultural perspective presented multiple examples refuting the ideas that the presence of grave goods indicates belief in an afterlife in which they are necessary, and that formal, organised religion implies formal disposal of the dead (Ucko 1969, 264). Instead, the deposition of objects in the grave is a means of disposing of the objects, or is a way of symbolising the identity of the deceased. Certain communities with well-developed notions of an afterlife in which the deceased requires possessions do not place objects in the grave, but instead provide them symbolically as part of the funerary rituals (Ucko 1969, 265-6). However, this does not mean that burial has no religious aspects, even if they are not always the easiest to access.

Although burials may not be of use in understanding formalised conceptions of the afterlife, they are nonetheless the best way of accessing general beliefs about death (Rebay-Salisbury 2012, 15). Funerary archaeology has tended to focus on what funerary rituals can tell us about the living society which created them. Burials may be more informative, however, in telling us about the dead themselves; how the dead, especially their corpses, were viewed, and what role they continued to play in society (Nilsson Stutz 2015, 2). It is oft stated, indeed frequently overstated, that the dead do not bury themselves; funerary rites are governed more by the interests of the living than the dead (Parker-Pearson 1993, 203). However, while the agency of the mourners is undoubtedly of importance in conducting the funeral, repeatedly stating that 'the dead do not bury themselves' downplays the importance of the deceased at the centre of the funerary ritual (Williams 2004, 264). Rather than being primarily a source of information about the living, burials should be regarded first and foremost as a source of

information on responses and attitudes towards death, and the rituals that resulted from those attitudes (Williams 2006, 5).

Changes in burial practices can therefore be interpreted in multiple different ways; changes in identities within a society, changes within social structure, or changes in the relationship between the living and the dead. However, we should not underestimate the importance of personal preference in burial practice; practices that initially have no meaning beyond personal preference acquire a meaning as they grow in popularity and become ‘the right thing to do’ (Rebay-Salisbury 2012, 25). For this reason, this thesis will also consider patterns of diffusion identified in fields such as sociology, in order to understand some of the thought processes behind why people adopt certain customs.

1.2. The Early Medieval Furnished Burial Rite

Much of the discussion around early medieval furnished burial rites has focused on their introduction into the post-Roman western world, either through the mechanism of migrating 'barbarian' tribes, or through cultural changes caused by the power vacuum in the late Roman Empire. As such, much of the scholarship has focused on the ethnicity represented in these burials, attempting to identify the historically recorded 'tribes' who made up early medieval Europe; the Anglo-Saxons, the Franks, the Alamanni, the Bavarians, and the Burgundians, to name but a few, from differences in the material culture found in graves. Although scholarship has now largely moved away from such simple identifications, the naming of different regions of Europe based on the tribes who supposedly settled there has become fossilised in the academic literature (see fig. 1 for the regions of early medieval Europe). The areas in which these groups lived form the main focus of this thesis, and the regional boundaries used were to some extent dependent on such divisions; therefore it is worth considering the extent to which these traditional ethnic boundaries actually existed, and how visible they really are in the burial record. I have tried to avoid the use of modern labels to distinguish between different regions, but using terms such as 'Frankish' or 'Anglo-Saxon' also carries certain problematic connotations. Therefore the use of other ethnic labels to refer to geographical areas throughout this thesis is intended as a shorthand for a particular geographic area with distinct practices. The people within these regions may have identified as 'Frankish' or 'Anglo-Saxon' on the basis of these differences, but they may also have expressed their identities, of which ethnicity was only a small part, in other, archaeologically invisible ways. This thesis is not concerned with the difference between ethnicities which may have been indicated by small variations in the style of objects and the way they were worn; rather it is concerned with the similarities in general object use within the funerary rite.

The practice of furnished burial emerged across Europe in the mid-fourth to fifth century, and much of the debate around its origins have focused on the question of whether it represents an evolution of late Roman practices, or whether it was a custom imported by migrating ethnic groups (see Halsall 1992 for a summary of the debate in a Merovingian context). Earlier preferences, common in the late Roman period, were largely for sparsely furnished, or unfurnished inhumation, although there was of course variation in burial practices across the Roman Empire. In Britain, Late Roman grave goods took the form of occasional small dress items, coins, or knives (Petts 1998, 115), while in the Low Countries, food offerings were common until the mid-fourth century (Theuws 2009, 285-286), and some female inhumations in Gaul were deposited with rich collections of jewellery (Halsall 1992, 201). Late Roman

inhumation itself emerged from the cremation practices which had been dominant until the late second century, although cremation continued to be used alongside inhumation within the Roman Empire (Theuws 2009, 285).

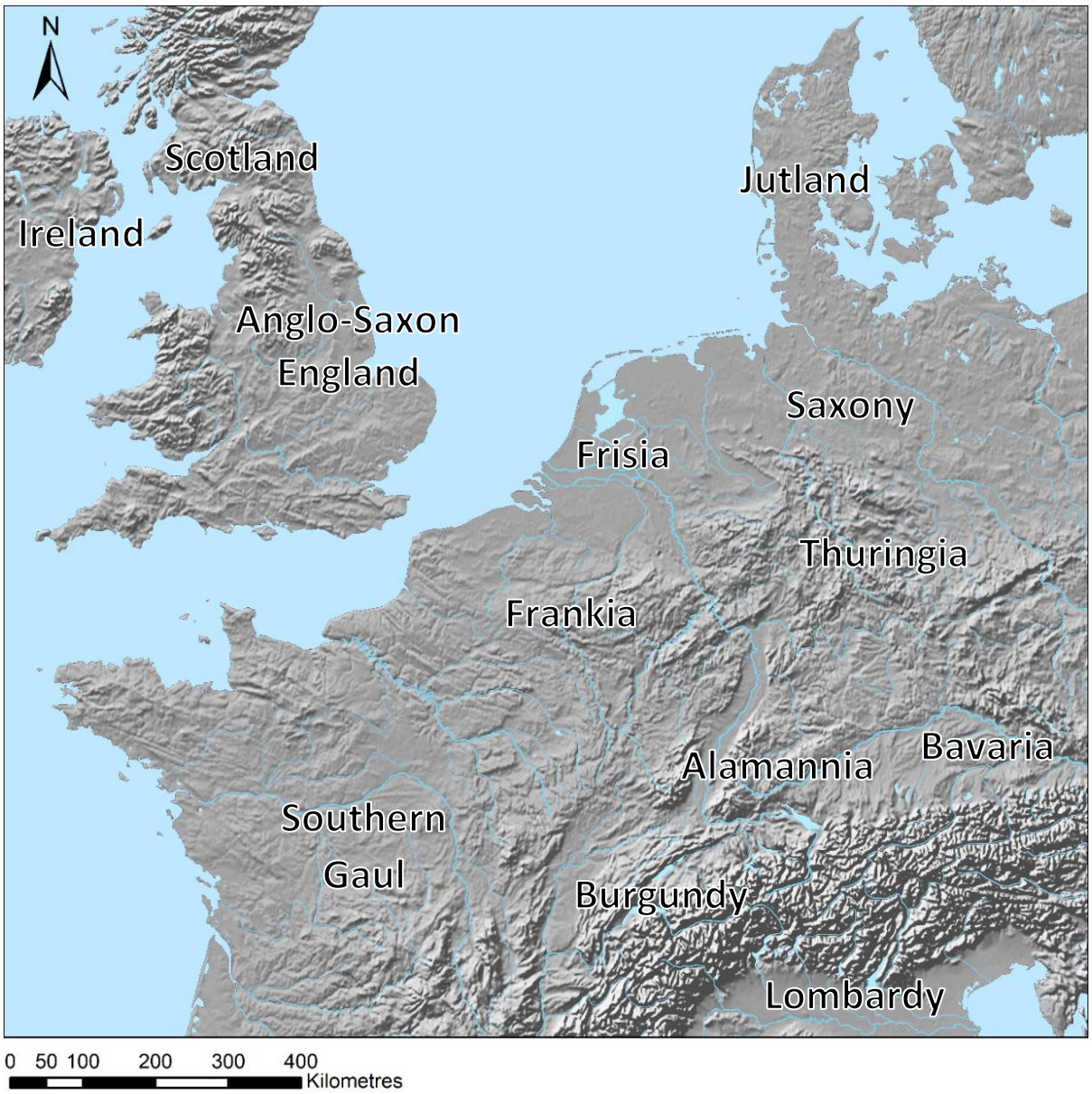


Figure 1: The regions of early medieval Europe

1.2.1. Ethnic Identities and the Furnished Burial Rite

1.2.1.1. 'Barbarian' Kingdoms and Regional Variations in Burial

The area known as Frankia covered the modern-day areas of northern France, Belgium, the Rhineland, and the southern Netherlands, with the River Loire forming the southern boundary (Halsall 1995, 9). Frankia had emerged as a political state by the fifth century (Hummer 1998, 12), but as with all early medieval kingdoms, the extent to which it emerged as a result of mass migrations is debated. Many early studies focused on the identification of Frankish

migrants through the use of grave goods, while the Gallo-Roman inhabitants were assumed to have been buried in largely unfurnished graves (Effros 2003, 100-102). The Franks, along with most other historically recorded 'barbarian tribes', are now generally thought to refer to a politically dominant regime, rather than a specific group of people (Fehr 2015); when individuals were identified as Franks, or Burgundians in the written records, this was more of a political label than an ethnic one (Geary 1983, 24-25). In the early sixth century, two Frankish kingdoms formed: Neustria in the west and Austrasia in the east, and the political reach of the Franks steadily extended through conquest over the next few hundred years. This region was the homeland of the Merovingian dynasty which gave its name to the period.

The region of modern-day south-west Germany and northern Switzerland is known as Alamannia, because of its association with the historically recorded Alamanni, who settled here in around the third century, along the borders of the Roman province of Germania superior (Brather 2005, 150-152). Around the start of the sixth century, this region became a part of the Frankish Empire. Alamannia has a relatively homogenous archaeological record (Schülke 1999, 78), with burials in this region differing from others in terms of quantities of different types of objects found in graves (Siegmund 1998, 182-191). These were slight differences, however, with a gradual transition between this and other regions (Brather 2002, 153). Even within Alamannia, there was variation in levels of grave good provision between cemeteries, and it is clear that the Alamanni were far from a homogenous group (Theune 2004, 355-56).

South-east Germany, meanwhile, was occupied by the Bavarians. Unlike other groups, the Bavarians were not thought to derive solely from a migrating tribe; the first written records of Bavarians date to the mid sixth century (Theune 2014, 275), and it was not until Bavaria became a part of the Frankish empire in the early seventh century, that an archaeologically uniform 'Bavarian' culture became visible, rather than the mix of different styles which characterised earlier material culture (Fries-Knoblach and Steuer 2014, 2, 7). Prior to this, this region used a mix of different styles, with frequent, continued use of 'Roman' material culture (Theune 2014, 275). The exact boundary between Bavaria and Alamannia is debated; traditionally, the River Lech was considered to be the western border of Bavaria (Hakenbeck 2011, 27), with the River Enns marking the eastern border (Steuer 2014, 114). However, closer analysis of the material culture in cemeteries west of the Lech, revealed a predominance of multi-partite belts in their burials, a style more common in Bavaria than in Alamannia, suggesting that the boundary lay at the River Iller instead (Steuer 2014, 117). It is

likely that there was not a simple dividing line, either side of which was dramatically different, but that there was a more gradual transition between the two cultural regions.

The area of Burgundy, which corresponds to western and central Switzerland and eastern France showed greater continuity of with the preceding, Roman burial practices (Schülke 1999, 78). Like other areas, its name was derived from a migratory tribe, the Burgundians, who settled in the region between Geneva and Lyons in the fifth century, before being conquered by the Franks in the mid-sixth century (Bouchard 1999, 328, Fehr 2015). Thus, by the end of the sixth century, large parts of continental Europe can be considered politically 'Frankish', but still maintained their own unique identities, reflected in the material culture of their burials.

Continental burial practices all had some common features to them, and the entire region has occasionally been referred to as the *Reihengräberfelderzivilisation* (e.g. Werner 1973[1950]). The cemeteries of this area are often called *Reihengräberfelder*, or row-grave cemeteries, because of the tendency for the graves in these cemeteries to be arranged in neat rows. They appeared in the fifth century, and clearly differed from the preceding burial practices, inhumation burials with minimal furnishing (Halsall 1998, 335, Theune 2004, 238). However, the extent to which this was the dominant form of cemetery has been somewhat exaggerated, and many cemeteries did not have such a rigid layout (Young 1975, 8). As well as simple, earth-cut graves, these cemeteries were also characterised by elaborate chamber burials, in which items of personal attire were placed within the chamber, whilst other equipment was placed outside (James 1988, 138).

Yet it is true that in much of the continent, ranging from the Merovingian regions of northern France, and the Alamannic regions of south-west Germany and Switzerland, there was relatively little continuity in funerary practices between the sparsely furnished inhumations associated with late Roman populations in the third and early fourth centuries, and the more elaborately furnished inhumation and cremation rites found after this point. From the middle of the fourth century onwards, weapons, belt accessories, brooches, and jewellery began to be deposited in graves in gradually increasing numbers, alongside a continuing unfurnished burial rite, and were joined by vessels in the second half of the sixth century (Theuws 2009, 286-7). This was not a complete replacement, and unfurnished inhumation continued to be used alongside furnished burial throughout the entire medieval period, without any indication that they represented separate ethnic groups. Object deposition was highly variable; this variation was to some extent based around identities such as gender and age, but was not homogenous even within these categories (Halsall 1998, 327, 331). Grave good provision

tended to be more elaborate in southern Germany and Switzerland than it was in Gaulish areas (Halsall 1995, 14). The frequency with which different types of objects were used also varied across regions. For example, while most areas used weapons to some extent, the types varied, with a great many different types of weapons being acceptable in Gaulish graves, compared to graves in north Germany, where only seaxes, swords, and spears were found (fig. 2). The burial of animals, particularly of horses, alongside human burials, was much more of a feature of burials in Germany than it was further west (Müller-Wille 1996, 209)

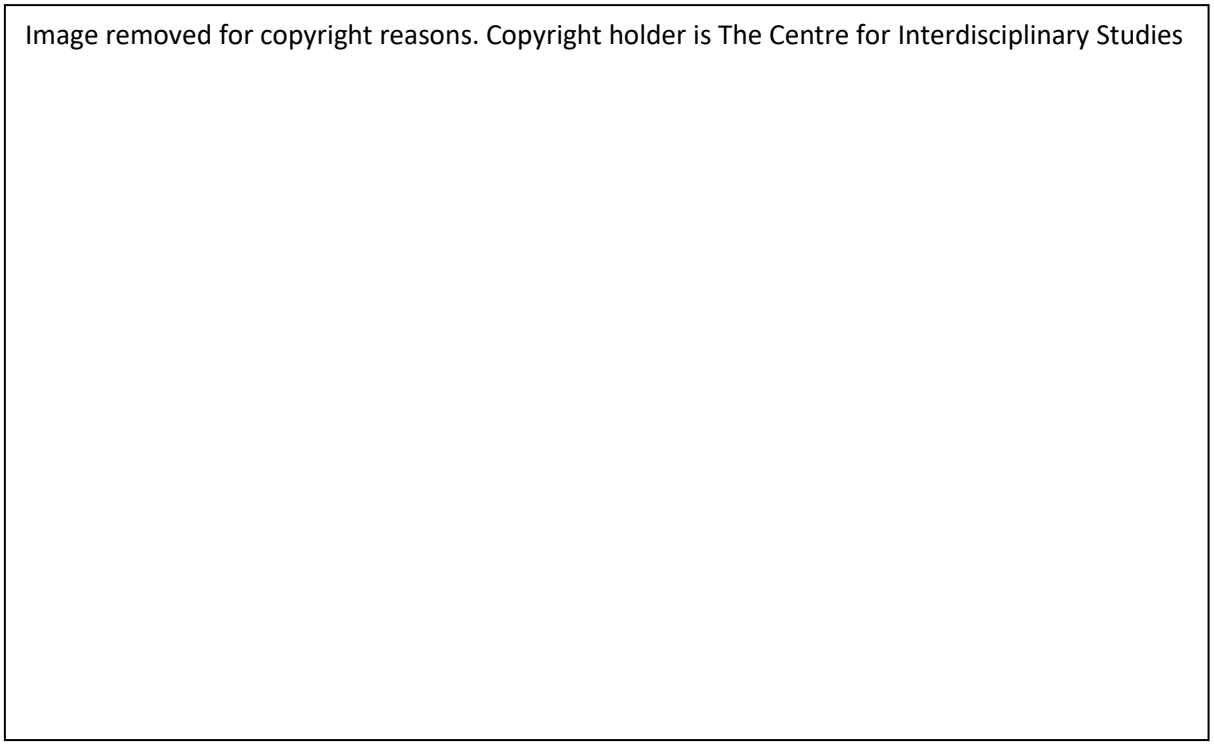


Figure 2: Types of weapons favoured in the burials of the Franks, Alamanni and Saxons (Siegmund 1998, 184)

The *Reihengräberfelderzivilisation* was very much a continental phenomenon, and the term has rarely been applied to burial in England. While few cemeteries in England resemble the large sites, laid out in rows, which are found on the continent, there are nevertheless many similarities in practice, particularly in Kent. The appearance of the furnished burial rite in England, like elsewhere on the continent, has traditionally been explained as a result of the migration of the Anglo-Saxons from northern Germany and Jutland; the extent to which it was attributable to an influx of newcomers, and how much it was the result of attributable to a process of acculturation of the native Romano-British population, is a debate which has shaped much of the research on this period. Furnished burial emerged in the late fourth to early fifth century in England at early sites such as Spong Hill, where there is continuity from Roman burials in some types of material culture used (Hills and Lucy 2012, 297, 300), and at Mucking, there was continuity of burial across the fourth century, with some of the earliest burials in the 'Anglo-Saxon' cemetery including typical Roman grave goods such as finger-

ring and bracelet assemblages (Lucy & Evans 2016, 438). Graves tended to be less lavishly furnished than those on the continent, without the elaborate chambers, and constructions of southern German cemeteries (Halsall 1995, 9, 14). Unlike the strictly regimented *Reihengräberfelder*, English cemeteries had burials in multiple, overlapping directions. Cremation burials also remained common practice in England until relatively late, with cremation and inhumation co-existing in many regions until late into the sixth century, and in a few instances later, as in the case of St. Mary's Stadium, Southampton (Birbeck *et al.* 2005). Only in parts of Saxony and in Scandinavia was cremation habitually used until this late. The horse burials commonly found in Alamannic and Bavarian regions were more rarely found in England, though cremations of horses were far more common, if restricted to eastern England (Fern 2007, 92-93, 101).

A gender dichotomy in funerary practice can be seen across early medieval Europe, in the graves of the Anglo-Saxons, Franks, Alamanni, Scandinavians, and others (Härke 2011, 98). Jewellery was found almost exclusively in female burials, along with items such as girdle hangers and spindle whorls, while weapons were found almost exclusively with males, and weapons and jewellery were rarely deposited in the same grave (Halsall 1996, 6, Lucy 1997, 157, Stoodley 1999, 29, 33-35). There was also a collection of objects, which might be more commonly found with either males or females, but not exclusively so, and this showed more regional variation; examples include tweezers, buckets, and animal bones with males, and combs and glass vessels with females in Anglo-Saxon contexts (Stoodley 1999, 49), while in Frankia, combs and glassware were equally likely to be found with either sex (Halsall 1996, fig 8.4). Age also had an impact on the use of gender specific grave goods, and it is almost impossible to separate gender and age (Lucy 2011, 689). Children were more likely to receive 'neutral' grave-goods (Halsall 1996, 10), items which were not usually exclusively associated with either males or females; the same is true of elderly males, but especially of elderly females (Halsall 1996, 11, Stoodley 2000, 462).

The practice of furnished burial was not confined to the core areas of study discussed above. In areas to the north, Saxony, Frisia, and Scandinavia, furnished burial rites with Germanic-style weapons are present, but cremation was also an important rite (Effros 1997, 279). Although cremation burials were present elsewhere, in some cases as late as the seventh century, cremation in the north was the predominant rite for far later. Throughout the sixth and seventh centuries, there is relatively little burial evidence from Scandinavia, compared to other parts of Europe, meaning that these earlier burials have received relatively little attention compared to those of the Viking Age. Funerary rites were highly regionalised, yet

share some common characteristics (Stylegar 2017, 401-2). Despite cremation being favoured, there were a small number of high-status inhumation graves such as the Vendel boat burials, and a few isolated regions where inhumation dominated, such as the island of Bornholm (Hedeager 2008, 17; Jørgensen et al. 1997). However, furnished burial in Scandinavia did not cease at the same time as it did in the rest of Europe, and although there was some variation in the levels of furnishing, many burials continued to include grave goods until well into the tenth century.

Across southern France, Spain, and Italy, the burial rites were more diverse, though generally more poorly furnished (Effros 2003, 129-130); there was a mix of the furnished inhumation favoured in the rest of Europe, the presence of which was attributed to Visigothic and Lombardic migrations, but there was also far more continuity of the earlier practices of unfurnished burial in stone sarcophagi. Spanish sites have a variety of Roman style sarcophagi, and simpler pit burials, as well as some mausoleums (Quiroga 2010, 45-51). The southern limits of the use of *Reihengräberfelder* are difficult to discern, with this cemetery type gradually becoming more common as you move further south, rather than there being a clear division (Brather 2005, 162), and in parts of Spain, the cemeteries do resemble the *Reihengräberfelder* of further north. Southern Europe also had more burials sited around churches than those further north, as early as the fifth century (Halsall 1995, 20).

The furnished burial rite is also found in Italy, particularly north of the River Po, but also sparingly further south (Halsall 1995, 17). There is a great deal of variety in levels of furnishing between cemeteries, with some being largely unfurnished, contrasting with burials where the types and styles of objects deposited resemble those of the *Reihengräberfelder* further north (Jørgensen 1992, 94; Possenti, 2014, 44). Furnished burial in Italy emerged around the mid-sixth century, and has been associated with the Lombard migrations. However, a circular argument is employed in this dating, whereby the historically recorded invasion of Italy by the Lombards in 568 is used a *terminus post quem* for the appearance of the furnished burial rite (Barbiera 2005 76). There are indications from some areas that objects of the style traditionally associated with Lombards did appear in northern Italy prior to 568 (Jørgensen 1992, 117), although exactly when this rite emerged is unclear. There are very few Italian cemeteries which have been fully excavated and published, and although this is a situation which has improved in recent decades, the majority of excavations are still developer-funded, and thus only investigate parts of a site (Possenti 2014, 36). Because of this, and the issues around correct chronology, Italy will not be considered in detail here, but would be worthy of a more in-depth study in its own right.

The most distinctly different region of Europe was the 'Celtic west', the regions of Cornwall, Wales, Ireland and Scotland. All of these areas practised predominantly unfurnished inhumation for much of the early medieval period. In Cornwall, burial in cists was common from the Iron Age to the tenth century, a great deal more continuity in practice than is seen elsewhere (Turner 2003, 175). Unfurnished cist burial was also the norm in Scotland (Maldonado 2016a, 39-40). The burials of Ireland, Wales, and Scotland were largely unfurnished, and an east-west orientation was dominant from the fourth century onwards (Breen 2010, 41, Edwards 2016, 189, Longley 2009, 105, O'Sullivan *et al.* 2014, 286). There were, nevertheless, occasional depositions of dress accessories or knives in Irish burials (O'Sullivan *et al.* 2014, 290). Cremation was rare and had completely vanished by the start of the seventh century. The position of the body in Irish burials also showed very little variation, being predominantly supine (McGarry 2010, 175). In the majority of continental Europe in this early period, cemeteries were located away from settlements, something that was probably a continuation of Roman customs. However, this was not the case in Ireland, where 'settlement-cemeteries' appeared as early as the fifth century, though were by no means the exclusive type of burials site (Ó Carragain 2010, 219, O'Sullivan *et al.* 2014, 306), and there are questions over how permanent some of these settlement-cemeteries were (Gleeson and Ó Carragáin 2016, 93). Burials from the west and north of Britain can be difficult to date, as they have few diagnostic features, and this has historically constrained their study, although this has begun to change in the last decade or so, with more attention being paid to British burials outside of the Anglo-Saxon regions (Maldonado 2013, 1-2; 2016, 40). The cemeteries of northern Wales are a particular problem, as the lack of associated grave goods, and the acidic soils which lead to poor bone preservation mean that they can rarely be securely dated (Edwards 2016, 181). Compared to the rest of early medieval archaeology, where funerary studies predominate, these burials have received less attention until recently.

Cremation was a common burial rite in the regions covered by this thesis, in some cases confined to separate cemeteries, but in some cases co-existing alongside inhumation on the same site. Cremations, on the whole, were more common earlier in the medieval period, but there are several sites where cremation was used right up until the abandonment of furnished burial.

Although we do not fully understand the factors which affected the choice of cremation or inhumation, they are quite different rites, in terms of the symbolism, and in terms of the technology required to carry it out. Cremations is a more resource-intense type of burial, requiring more resources and labour to be put into the construction of a pyre (McKinley 2013,

147). The creation of a pyre which will cremate a body is a complex, technical process, suggesting that such funerals were managed by specialists (Oestigaard 2013, 505).

The use of grave goods within cremation rites varies, with different objects being introduced at different stages of the process. Some of the objects included within cremation deposits may have been burnt on the pyre with the body, while some may have been added afterwards, and it is important to distinguish between these, as they are likely to have had quite different significances (McKinley 2013, 150). For example, combs and toilet implements were frequently added afterwards, possibly because they were involved in arranging the corpse (Williams 2013, 197, 200).

The immediacy of the transformation of the body on cremation also gives them a different significance to bodies which have been inhumed. The immediate destruction of the flesh means that the bones can be separated, and incorporated into different aspects of the community, and potentially not buried until years after death. (Oestigaard 2013, 500). Because of this fundamental difference in the way the body is treated, and in the way grave goods are used within cremations, I have focused on inhumation burials throughout this thesis. There are nevertheless interesting questions about the choices made regarding inhumation and cremation, which are worth exploring further. There is most likely as much variation in the use of grave goods in cremation burials, and in the use of cremation versus inhumation, as there is in the use of grave goods within inhumations, and such variation is worthy of study in its own right.

1.2.1.2. Ethnicity and Migrations

Interpretations of the emergence of the furnished burial rite have been defined by narratives of migration across almost all of early medieval Europe. The idea that artefacts of a certain style, found within a defined geographic boundary could be associated with particular ethnic groups, and that the movement of those boundaries represented the movement of people, was first formalised by Gustaf Kossina (Lucy 2000, 175). The distributions of various styles of material culture generally map quite well onto the expected locations of different ethnic groupings, hence why a particular brooch-style became associated with a particular group, though these groups of course have blurred edges (Härke 2007, 13, Kazanski and Périn 2009, 150). In Frankish regions, the appearance of furnished burial was initially linked to particular groups such as the *laeti* or *foederati* (Böhme 1974, Werner 1973 [1950]), and Böhme (1974, 190) suggested that weapon burials were adopted by Frankish migrants only in a frontier context, due to potential violence of those regions (see Effros 2003, 100-111, for a more in-depth discussion of the history of research into Frankish ethnicity).

More recent approaches emphasise the impossibility of assigning burials to either 'Germanic' or 'Roman' populations, and reject the possibility of associating a particular style of material culture with a migrating group; some would go as far as to state that there is no way of understanding ethnicity through material culture at all (Brather 2005, 167, Harland 2019). Instead, an individual's association with a particular group through its material culture and forms of display can be chosen, not dictated through biological origins, and can fluctuate over a life-course. The introduction of these burials and styles of material culture did not correspond chronologically or geographically with the historically recorded presence of various tribal groups; nor was this type of burial found in the areas of Germany where these groups were supposed to have migrated from (Halsall 2002, 201-2). Instead, the furnished burials and their associated material culture could be interpreted as a deliberately constructed identity in a new political and cultural context, following the withdrawal of the Roman imperial power from this region, and the resulting competition for status resulted in increasing displays of wealth at funerals (Halsall 2002, 205). Many of the earliest fifth-century burials contained Roman-style artefacts, emphasising the continued importance of Roman ideologies of power to the successor states (Brather 2005, 162).

The view of the Anglo-Saxon migrations has been particularly influenced by the accounts of Bede and Gildas, and much energy has been devoted to proving or disproving those accounts of the migration of distinct tribes of Angles, Saxons, and Jutes into different parts of England (see Hills 2003 for an overview). Much scholarship has been concerned with the scale of the migrations, whether they consisted of an almost complete population replacement, or whether they were a small band of elites whose material culture was emulated by the local populace (Hills 2011a, 5). Less emphasis has been placed on the continuing impact of the Roman Empire, perhaps because there was less evidence of continuity. The archaeological evidence implies a sharp divide, but this is more to do with issues of chronology within the transitional period, and there is considerable circularity of argument (Gerrard 2013, 80-82, Hills 2003, 86). As with Frankish burials, the new brooches were influenced by late Roman artistic styles, and can be seen to some extent as a continuation of Roman ways of displaying power (Gerrard 2013, 201-202). Although there was a clear distinction between third- and fifth-century England, there were nevertheless some elements of continuity which have been overlooked. At the cemetery of Wasperton, for example, two cremation urns, which would usually be assumed to be Anglo-Saxon, were radiocarbon dated to the fourth or early fifth century, contemporary with inhumation graves containing Roman-style material culture, and this was a cemetery which was in continual use from the fourth to the seventh century (Carver *et al.* 2009, 87).

The existence of different cultural regions in Anglo-Saxon England has long been attested archaeologically, as can be seen through the regional dress styles of the fifth and sixth centuries; jewellery in particular shows a great deal of regional variation, particularly brooch styles (Hills 2003, 104-105). Regional identities in material culture found in inhumations developed in late fifth and sixth centuries, and the antecedents of those objects were more widely distributed, suggesting the creation of distinct regional identities by selecting distinct parts of pre-existing models (Hills and Lucy 2013, 330). While these styles do not directly equate to three different migrating tribes, as early literature following the account of Bede might have suggested (e.g. Leeds 1913), the distribution of different brooch styles do suggest regional identities which were continually created and renegotiated through the use of material culture (Martin 2015, 163). Increasingly, scientific evidence in the form of stable isotopes (e.g. Hakenbeck *et al.* 2010, Montgomery *et al.* 2005, Schuh & Makarewicz 2016) and aDNA studies (e.g. Schiffels *et al.* 2016; Amorim *et al.* 2018) are being used to address issues of migration, and have brought the possibility of mass migration back into serious consideration (Härke 2011a, 4). In most instances, these studies indicate some level of mobility, though it varies between sites, but they also confirm that there is little link between the material culture displayed in the grave, and the area of origin. However, Amorim *et al.* (2018) did show a difference in the funerary practices of two distinct ancestry groups in two Lombard cemeteries.

The narratives of Roman to post-Roman transition have also been strongly influenced by the national context of researchers; French scholarship, for example, has tended to favour narratives of Roman continuity, while German scholarship has tended to favour explanations involving migration of 'Germanic' populations (Wickham 2006, 42). Continental archaeologists, on the whole, have been more willing to accept large-scale migrations as feasible, than British archaeologists (Härke 2006, 263). After the Second World War, displaced populations were an issue across continental Europe, and so the possibility of mass migration were much more easily accepted there than in the UK until recently (Härke 2006, 266). The debate over the extent of the migrations and the nature of ethnicity has thus varied as much with contemporary politics as with evidence.

1.2.1.3. Christianisation

The other key debate regarding the burials of this period is what religion they represent. Although it has long been recognised that there is no simple link between Christianisation and the abandonment of grave goods, this does not mean we should ignore the potential influence of religion on burial practices. The extent to which the early medieval world was

Christianised is highly debatable, and it is unhelpful to try and distinguish clear categories of 'pagan' and 'Christian' practices. The adoption of Christian beliefs was something which was highly regionally variable, dependent on the earlier contexts of each region (Ó Carragáin and Turner 2016, 16), and the Christian practices specific to each region were gradually constructed from existing attitudes, not imported from abroad (Maldonado 2016b, 244). Although Christian institutions spread relatively quickly, it took far longer for individual behaviours to change to the requirements of the new religion (Milis 1986, 488). The religious infrastructure of churches and bishoprics mask the variety of ways in which ordinary people engaged with the new faith. These might not necessarily have represented 'pagan survivals', but an interpretation of the new religion through an existing world-view (Pluskowski and Patrick 2003, 30). The written accounts of conversion focus mostly on royalty and nobility; reconstructing the religious beliefs of ordinary, especially rural populations, is harder. Nevertheless, more recent works (e.g. Ó Carragáin and Turner 2016), have attempted to remedy this by taking landscape and material culture-based approaches.

Many of the written accounts of Christianisation are often contradictory and unclear, especially as to whether Christianisation which occurred in the late Roman Empire was sustained into the early medieval period. At least some parts of Gaul remained Christian from their conversion in the mid fourth century, and across the fifth and sixth centuries the network of dioceses became established across all of the former Gallic provinces, so that by the mid sixth century almost all of Gaul was Christianised (Guyon 2013, 171, Pearce 2003, 61-62). In the north-east of Gaul, however, diocesan structures were disrupted in the early medieval period (James 1988, 128), and there were many areas where there were no church records for the late fourth and fifth centuries (Keller 2003, 418). The historical date for the conversion of the Franks comes from the conversion of Clovis to Catholicism in the late fifth century (James 1988, 123). The picture is complicated by multiple and varied forms of Christianity in this early period, with Catholicism competing with Arianism. Accounts of 'barbarian' conversions suggest that, on the whole, Arianism had more initial success than Catholicism (Dunn 2013, 31). Therefore, when sources talk about conversion, it is not always clear if they are referring to conversion from paganism or Arianism.

These areas may have been only nominally Christian, however; Young's (1975) study of the French region of Sarrebourg has suggested that while the urban areas were continuously Christian, rural areas were not, and the acceptance of Christianity amongst the non-elite rural populace was likely to have been superficial. Across Europe, the Church spoke out against continued idolatry, tree-worship, divination, and the celebration of Christian festivals with

customs of non-Christian origin (Dunn 2013, 105-6). One notable episode concerning central Germany described the missionary St Boniface destroying a sacred oak at Geismar in the face of opposition from the local pagan population, in the year 723 (Clay 2016, 386), and texts such as the *Indiculus superstitionum et paganiarum*, written in the mid-eighth century, denounce a series of folkloric practices, which could be considered non-Christian (Dierkins 1984, 25). However, many of these prohibitions could have been symbolic rather than representative of genuine continued practice (Halsall 2010, 269). The practices condemned by the church contained no references to specific gods, so these may not have represented true pagan survivals (Dunn 2013, 106). Despite this, there was some continuity of practice across the conversion period; Childeric's grave in Tournai, for example, continued to be a focus for later graves after the conversion (Effros 2003, 122).

The extent to which the Alamanni were Christian is unclear, as there are few written sources from this region (Schülke 1999, 79-80, Wood 1998, 2). However, it is generally thought that the Alamanni in northern Switzerland continually practised Roman Christianity, whilst the German Alamanni were converted by a series of missions starting at the end of the sixth century (Bierbrauer 2003, 439). Some parts of Bavaria clearly remained Christian following the fall of the Roman Empire, but with pagan practices existing alongside Christianity for quite some time (Fries-Knoblach and Steuer 2014, 8). Bavaria was the target of a series of missions in the early seventh century, referred to as the Luxeuil missions, but these were more of a re-organisation of Christianity in the region, rather than a reconversion (Bierbrauer 2003, 439, Couser 2010, 27).

Although Christianity was introduced to Britain under Roman influence, this was only superficial; in the fourth and fifth centuries, a form of Christianity survived in the west and in Ireland, but the majority of England returned to non-Christian practices (Blair 2005, 10, Pluskowski and Patrick 2003, 34). It is likely that there were some small pockets of continuing Roman Christian practice in southern and eastern England (Blair 2005, 24), and in more western areas such as the Peak District (Moreland 2016, 281-2) but the evidence for this is slim. The arrival of St Augustine's mission of 597 is taken as the official start of the Christianisation process, although there certainly were Christians in England before then, such as Queen Bertha, a Christian Frankish princess who married Aethelbert of Kent, and her retinue (Burnell and James 1999, 87). Throughout the seventh century, missions to various parts of England led to a sustained expansion of Christianity in England, until by the 680s the process was complete, at least nominally (Blair, 2005, 9). Irish missionaries also had an impact; England was Christianised under the influence of both the Roman and Irish church,

and Irish missionaries were also influential on the continent (Blair 2005, 44-45, Carver 2003, 8). Again, the narratives of Christianisation are not straightforward; Raedwald, for example, is recorded as having taken part in both Christian and non-Christian forms of worship (Yorke 2003, 244), and drawing clear divisions between 'pagan' and 'Christian' is not a helpful way of understanding religious affiliation in this period.

It was not until the first half of the seventh century that archaeologically visible signs of Christianisation began to appear in the graves of ordinary people, in the form of cross-shaped brooches across the Frankish world (Bierbrauer 2003, 437). Some of these are ambiguous; a cross is a very simple shape, and not all crosses necessarily have Christian associations; nor did the people wearing them necessarily understand the significance of the symbol (Crawford 2004, 94). In Alamannia and Lombardy, crosses appear in the form of thin gold foil, sewn onto shrouds and funerary clothes. They were found earlier in Lombardy, but only appeared in Alamannia in the first half of the seventh century, becoming more frequent in the second half; only after this point did crosses appear on brooches and other dress items which would have been worn in life, rather than being created specifically for the funeral as the gold-foil crosses were (Bierbrauer 2003, 439-441). The use of gold or silver cross-shaped pendants in Anglo-Saxon female graves of the second half of the seventh century, can also be used as evidence for the consolidation of Christian belief in England (Lucy 2016, 35-6). Other 'Christian' material culture comes in the form of 'Daniel' buckles, found primarily in Burgundy. These were large buckles, decorated with images of Daniel and the lions, and which could open, allowing for a possible function as a reliquary. While it is unclear if these were worn regularly, they again had the potential to be worn, unlike the foil crosses which were clearly designed for the grave (Dunn 2013, 157-159). Even these objects are not unambiguously Christian, however, and could, in some cases, be interpreted as images of pre-Christian deities overcoming wild animals (Dierkins 1998 [1991], 49). Other objects with a potential religious significance include 'work-boxes' thought to be Christian reliquaries, which are predominantly found in the seventh century in both Anglo-Saxon and Merovingian regions, some decorated not only with crosses, but also potential crucifixion scenes (Hills 2011b, 16). Though not definitive evidence of Christian belief, the fact that they appear in such large numbers is an important change, and one that signifies the increasing presence of Christianity in public life.

1.2.2. Burial in the Seventh Century

These furnished burials, in all their myriad forms, were mostly a feature of the fifth, sixth, and to some extent seventh centuries. The changes which eventually resulted in a standardised,

unfurnished, later medieval style of burial had their origins in the seventh century, however. This was not a straightforward transition from one form to another, and multiple different forms of burial were experimented with in this transitional period.

One of the key changes seen in the seventh century was the variety of forms of burial which became acceptable. An example of this was the introduction of barrow burials. Barrow burials across Frankish and Germanic regions were most common from the mid sixth century to the mid seventh century (Van de Noort 1993, 67). Barrows from earlier periods were mostly located in the south of France, whilst later ones were mostly Scandinavian (fig. 3), as well as being found further east in Bohemia and along the Danube (Lutovský 1996, 674). They tended not to be found in the Frankish regions but were instead clustered in England and southern Germany (Van de Noort 1993, 67-9). These barrows were part of a suite of high-status burials which appeared during the seventh century (Böhme 1996, 482). Other forms of high-status burial include the stone mausolea constructed across northern France, and permanent, above-ground grave markers, constructed in a largely Christian context (Halsall 1995, 13). Across the Frankish world and Bavaria, separate burial grounds for the elite appeared between the seventh and ninth centuries. These were smaller than other cemeteries, but with a high proportion of richly furnished graves (Burnell and James 1999, 90, Czermak *et al.* 2006, 298, Effros 2003, 197, Hakenbeck 2011, 76). The appearance of burial rites emphasising status differences have been used to characterise the seventh century as a period of emerging, but unstable, social hierarchies.

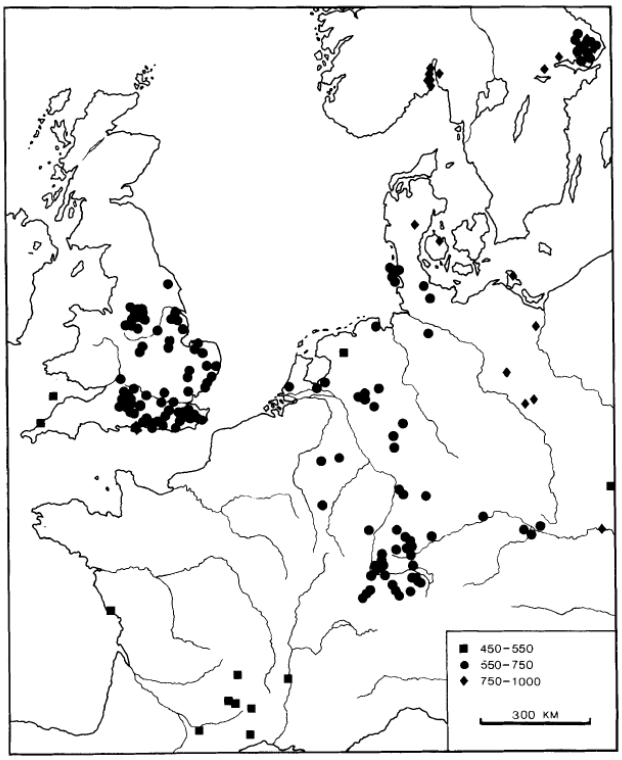


Figure 3: The distribution of barrow burials from the mid fifth century to the tenth century. Van de Noort, The context of Early Medieval barrows in western Europe. Antiquity 67 (254), 66-73, reproduced with permission.

The seventh century also saw the gradual abandonment of the *Reihengräberfelder* in favour of smaller cemeteries, some associated with churches or chapels in Alammania (Theune 2004, 268), Frankia (Loveluck 2013, 34) and Bavaria (Czermak *et al.* 2006, 298). In the Meuse region of the modern-day Netherlands, these smaller cemeteries included small groups of burials associated with settlements, where only a few members of the community were buried, potentially as a means of creating an ancestor associated with the farmstead (Theuws 1999, 343-344). In England, these later, smaller, often poorly furnished cemeteries, have historically been referred to as 'final-phase' cemeteries, though there was no association with churches (Boddington 1990, 188). These cemeteries were identified as early Christian burial sites by T.C. Lethbridge in the 1930s, following his excavations of the Cambridgeshire sites of Burwell and Shudy Camps (Lethbridge 1931, 1936). However, this religious identification, and the predominance of this type of cemetery during the seventh century has been heavily critiqued. Whilst many cemeteries did go out of use in the seventh century, and were replaced by newer, smaller ones, this was not a simple transition from one form to the other (Blair 2005, 238, Buckberry 2010, 2, Hadley 2002, 210), and many earlier cemeteries continue to be used into the seventh century (Scull 2015, 78). Theuws (1999, 346) characterises this period as one where communities could make choices about the most appropriate places to bury their dead.

The shift towards church burials was something which began in the seventh century, but they did not replace field cemeteries as the dominant form of burial, at least not until much later. Initially, church burial was another means of expressing status, by emphasising proximity to the remains of saints within the church (Blair 2005, 58, Bullough 1983, 179, Geake 1997, 127, 135, Hakenbeck 2011, 73). Churchyard burial was adopted slowly, with a marked gap between the abandonment of the larger cemeteries, and widespread burial beside a church. Although the latter was an option in the seventh and eighth centuries, it was more of a privilege than a necessity, and many individuals ended up buried in community cemeteries away from churches (Bullough 1983, 184, Meaney 2003, 238). The exact transition from *Reihengräberfelder* to churchyards is understudied, however (Hassenpflug 1999, 59), with repeated use of churchyards making it difficult to identify the earliest burials in them. In Frankia, it was common to see chapels added to existing cemeteries, something that only rarely occurs in England (Blair 2005, 64, 236-7) although there were some examples where church foundations appear to have cut earlier burials, such as at Barrow-on-Humber, Lincolnshire (Buckberry 2010, 8). This could be seen as a form of retrospective Christianisation (Dunn 2013, 157). It was not until 850 or later that burial beside a church became the normal practice, although it still does not appear to have been compulsory, and

some field cemeteries were in use until the eleventh century (Blair 2005, 228). This has often been overlooked though, because of an assumption that later burials were exclusively besides churches; many excavation reports claim that there must have been a church near these field cemeteries, on very little evidence (Astill 2009, 228). This does not mean that these cemeteries had no religious associations; they may have been affiliated with minsters, an association which developed from around 720 onwards (Sayer 2013a, 137), and if these sites were consecrated, then there may also have been an association of *ad sanctos*, even if there were no church or sacred remains present. Field cemeteries may finally have been abandoned in an era of increasing churchyard burial, because, by not being associated with a church, they had begun to develop an association with exclusion from consecrated ground (Thompson 2004, 180).

Perhaps the most defining feature of the change in burial practices during this period was the loss of grave goods, and this has been observed at different levels in all the regions in question. Across Frankia and Alamannia, there was a gradual decrease in the practice of placing objects with the dead over the sixth and seventh centuries, something which accelerated in the phase c.670-c.720, so that by the first half of the eighth century, furnished burial had been almost completely abandoned (Effros 2003, 85, Halsall 1995, 15, Theune 1999, 29, 32). There were some areas around the Lower Rhine where well-furnished burials continue into the eighth century, but this was unusual (Bullough 1983, 185). In England, earlier studies, such as Geake (1997) suggested a very similar chronology to the continent; grave good use began to decline around the middle of the seventh century, and was totally abandoned by 720-730 (Geake 1997, 130). This timeline has been refined by a recent study by Hines and Bayliss, which dated the start of the decline to 560-570, and the final abandonment to 685, considerably earlier than on the continent (Hines & Bayliss 2013, 476-9). There are potential issues with this chronology, which may throw doubt on such an early date for final abandonment, however, and will be discussed below. Following this final abandonment, the occasional object was still deliberately deposited with the dead, and was so throughout the entire later, medieval period (Hines & Bayliss 2013, 526, Corrochano and Soulat 2017, 99-100), but this is far from the levels of deposition we see earlier.

The decline in grave good deposition was not steady or uniform. On the whole, grave good deposition became more representative of a socially stratified society, with a few furnished graves contrasting with a majority of unfurnished graves (Koch 1968, 132). Some of these burials were richly furnished, ‘princely’ burials, such as Sutton Hoo and Prittlewell, as well as increasingly rich female burials (Boddington 1990, 189, Burnell and James 1999, 90). The

rich female burials tended to be slightly later than the male ones. Although furnished female burial decreased towards the end of the sixth century, they became six times as common as richly furnished male burials in the mid seventh century (Hines & Bayliss 2013, 476-9, 539). It is important to note, that many of these 'rich' burials, with the exception of the princely ones, were only rich in comparison to contemporary burial, and would not have stood out a century earlier in terms of quantity of furnishings, although the quality of objects in them was high. The ways in which masculine and feminine assemblages change over time was also different. The display of gender became less common, although children became increasingly likely to be buried with objects which previously would only usually have been included in adult graves (Geake 1997, 128-9). In England in the fifth to sixth century, approximately 53% of burials were gendered, while in the seventh century this fell to 24%, and a similar change has also been noted in Frankish burials (Halsall 1996, 12, Stoodley 1999, 101). The use of both identifiably feminine and masculine objects fell to as low as 10-20% of graves after 560/70. Most male burial continued to be poorly furnished until the complete abandonment of grave goods, with the seventh-century 'princely' burials being a minority of masculine display, but the level of furnishing in female burials increased again in the second quarter of the seventh century (Geake 1997, 129, Scull 2015, 77).

There was not just a decline in grave goods, but also a change in the types of objects deposited in graves. In Frankia, there was a noticeable change in style, and the types of objects deposited became less varied, being restricted mainly to dress accessories from the seventh century onwards (Halsall 1998, 336). The custom of burying the dead with a coin to pay the ferryman to the underworld, a continuation of a Roman tradition, had fallen out of favour in the seventh century (Young 1975, 188). Weapons became less commonly used over time, particularly in adolescent graves, and the variety of weapons being used also decreased. While the seax increasing in popularity, all other types declined (Geake 1997, 129, Härke 1992, 159-160). However, those burials which still contained weapons remained relatively richly furnished, whereas the wealth of male burials without weapons strongly decreased (Härke 1992, 161). Weapon burial may increasingly have become more of a display of status than of gender in the seventh century. This was not a universal trend, however, and burials in Lombardy continued to use weapons in the same quantities as before, until the third quarter of the seventh century, despite there otherwise being a decline in burial furnishing (Possenti 2014, 45).

Seventh-century grave goods increasingly imitated Roman and Mediterranean objects in style. In England, these Roman-style artefacts appeared in graves at the start of the seventh century,

and at the same time, artefact styles became more standardised, and the regional differences in dress styles started to disappear (Geake 1997, 132) The same trend has been noted in individual cemeteries in other parts of the continent; for example, in the cemetery of Donautal, Koch remarks that Roman-style objects began appearing in the seventh century (Koch 1968, 132). This can be linked to aspects of Christianisation, but to the increasing cultural influence of the Roman church, rather than specifically to religious change.

Declining grave good use was visible even within areas where there was very little grave good deposition to begin with. In the south of France, there was a decline in the number and types of objects used in burials, beginning in the sixth century, so that by the late seventh century, unfurnished burial predominated (Effros 2003, 130). Even within Celtic regions of unfurnished burial, funerary practices were not static. Although there was no grave good use to decline, cemeteries went through the same changes in location which were seen elsewhere. Irish enclosed cemeteries became more common in the sixth and seventh centuries and reached their peak popularity in the eighth century (Petts 2002, 25, 32). As with the rest of Europe, cemeteries from the seventh century onwards became increasingly likely to be located around a church; this was the result of legislation from the Irish church, although some non-ecclesiastical graveyards remained in use up until the eleventh century (O'Sullivan *et al.* 2014, 305-306). Many of these smaller, family cemeteries went out of use in the seventh and eighth centuries, possibly because the increasing emphasis on liturgy may have made multiple small cemeteries unfeasible (Ó Carragain 2010, 222-3). Cemeteries in Scotland, too, began to be abandoned in the eighth century, along with more varied forms of funeral, such as cist graves and cairns, in favour of earth-cut graves in church cemeteries (Maldonado 2013, 3). The same is true in Wales, where seventh-century elite burials were increasingly associated with churches, although some of the earlier sites probably also continued to be used (Edwards 2016, 182). Similar patterns of change can thus be seen at the same time, across the entirety of the early medieval western world, regardless of the initial form funerary rites took. Although not all of these regions could be studied in depth in this thesis, it is important to note such contemporary changes.

1.2.3. The Use and Meaning of Early Medieval Grave Goods

There are many different aspects of the funerary ritual besides the practice of furnishing: the position the body was placed in, the use of containers or stone settings, or associated funerary monuments, to name but a few. I will touch on the types of cemeteries used, but the focus of this thesis will primarily be the use of grave goods. In order to understand why grave goods ceased being deposited in the grave, we first have to understand the motivations behind

placing them there in the first place. The meaning behind every grave and the objects placed in it will have been slightly different, as it was constructed by different groups of people with a unique relationship to the person they were burying, and who would have attached slightly different significance to the objects they chose to place in the grave (Sayer 2013b, 154). The potential roles that grave goods may have played in the early medieval funerary rite were summarised by Härke (2014). He listed eleven possible reasons for placing objects in the grave, but he acknowledged the overlap and mutability of some of these categories. They include:

- Equipment for the hereafter
- Inalienable property
- Potlatch
- Indicators of identity
- Metaphor
- Gifts to the deceased
- Gifts to a deity
- Remains of the funeral feast
- Disposal of polluted items
- Protection of the living
- Forgetting.

In addition, objects could also have been placed in graves as a way of transforming them into sacred heirlooms by removing them from circulation networks (Kars 2013, 101). These different concepts, and their applicability to the burial record of early medieval Europe will now be discussed, along with some of the difficulties in distinguishing between different potential uses of grave goods.

The idea that grave goods were the personal possessions of the deceased, deposited to take to some kind of afterlife, was a corner-stone of antiquarian understandings of grave goods, but has very much fallen out of favour as being overly simplistic since Ucko's (1969) ethnographic work, which revealed a large number of alternative possibilities for why objects might be deposited in graves. One of the earliest theories for why grave goods were deposited in an early medieval context was the idea of *Heergewäte* and *Gerade*; male and female possessions respectively, which by law could not be passed on to their descendants, but had to remain in possession of the deceased, and so be deposited in the grave (Reinecke 1925, 104). While this was an influential theory for some time, especially with regards to Frankish

burials, it has now largely been discredited, on the basis of a more accurate reading of the law codes in question (Effros 2002a, 25). It is undoubtedly over-simplistic to view every item simply as a possession, and other narratives have been developed to explain funerary rituals, many of them focusing on the significance of grave goods to the society carrying out the burial. Yet this does not mean that the concept of possessions should be entirely abandoned.

Objects may have been placed in graves not as the possessions of the deceased during life, but as gifts from the living to the dead. Gift-giving was an important aspect of the funeral, as the giving of gifts helped to mark the new social role of the deceased following the change in their social status. King (2004) argues that medieval grave goods were largely the product of this gift-giving network. Although it is not always possible to distinguish between possessions and gifts, objects were more likely to have been gifts if they were outside a coffin, deposited higher in the grave fill, or found in unusual positions for their type, such as dress accessories which were not on the body (King 2004, 220-221). Objects found outside the coffin may also have been related to funerary ceremonies, rather than being possessions per se (James 1988, 139). However, even with objects which were directly associated with the body, such as brooches, there is no definitive reason to assume that they were possessions of the deceased, rather than objects gifted during the process of dressing the corpse (King 2004, 219). The practice of giving gifts to the deceased is perhaps more indicative of the relationship between the dead and the living, than about the dead themselves (Fahlander and Oestigaard 2008, 7).

It has long been argued that the objects placed in the grave were not direct displays of identity, but were specifically selected in order to display an idealised social identity, and in doing so, help to reinforce such social identities within societies as a whole. This interpretation of grave goods is now a dominant paradigm in funerary archaeology, summarised in section 1.1.2 above. Although Härke (2014) presents ‘indicators of identity’ and ‘metaphor’ separately, the two are closely intertwined, with metaphor referring more to specific individual biographical details, and social identity usually referring to an individual’s association with broader categories of gender, age, or ethnicity. Grave goods can be seen as a way of storing and transmitting information about the social identities and biographies of the deceased, presumably for the benefit of those who would be present at the funeral; the information transmitted by such grave goods was context dependent and cannot be understood divorced from that context (Halsall 1998, 327-8).

The concept which Härke refers to as potlatch is more commonly thought of as conspicuous consumption during the funeral in order to display the status of the mourners. This is the concept on which many theories about changing grave goods rest (see below). This view of

grave goods will be critiqued below, but to summarise, this an overly functional view of what is not, primarily, a functional rite.

In comparison to these four ideas, many of the other potential motivations for grave goods listed by Härke have received less attention. Certain types of objects, namely vessels and animal remains may have been included in the grave as remains of a funeral feast, though they may also have been food offerings to the dead. The idea that some objects may have been disposed of in graves because they were no longer suitable for use among the living is one that has many ethnographic analogies, but little direct evidence in the early medieval period. This could be a possible interpretation of the inclusion of unburnt combs and other toilet implements in cremation urns. They may have been used during the funerary rituals to prepare the corpse, and as such were unsuitable for continued use by the living (Williams 2013, 200), though some combs, at Spong Hill, for example, showed no sign of ever having been used (Riddler and Trzaska-Nartowski 2013, 131). Cremations are a fundamentally different type of funerary rite to inhumations, but there is potential to consider combs and toilet implements in a similar light there.

The concept of a potential gift to a deity is also one which is rarely considered. The main example in the early medieval period is the inclusion of coins to pay the ferryman (Härke 2014, 49-50), and there are many graves studied within this thesis which contained coins placed in the mouth, or clutched in the hand, which may well have been included for this purpose. Crawford, however, argues that grave assemblages should be viewed as votive deposits, arguing that the only distinction between burials, and non-recoverable votive hoards is the presence of the body (Crawford 2004). Given that there is relatively little evidence for other types of votive deposition in early medieval England, in comparison with places like Scandinavia, it could be argued that burial fills this otherwise missing gap (Crawford 2004, 96). I, however, would argue that the presence of the body fundamentally alters the nature of the assemblage.

All of these different concepts have some potential for explaining different aspects of the funerary rite. The concept of possessions should not be entirely dismissed, however. Rather, what it means to ‘possess’ an object, especially after death, needs to be interrogated further. The likelihood of possessions being deposited in graves depends very much on the nature of the connection between an object and their owner. The nature of these connections can be deduced in the early medieval period by examining the types of objects which were and were not removed from reopened graves, based on the work of Klevnäs (2013) for England, and Noterman (2016) for France. Some objects were only negligibly owned; there was very little

meaningful connection between the object and its owner, and so this type of object was quite easy to give away, whether through trade, or on someone's death (Klevnäs 2015b, 179). Such objects were unlikely to have had much worth as a gift, as there was very little meaning attached to them. Other objects might have been more meaningfully owned. Inalienable possessions had an indelible connection between the owner and an object, which added prestige to the object (Klevnäs 2015a, 5, 12). It was possible to break these connections, but only with difficulty, and it was more common for these objects to remain within an 'owning' group, often based around kinship (Klevnäs 2015b, 170). These objects were therefore highly likely to be deposited in graves, or if not, passed on to descendants. This includes objects such as swords and brooches, objects which were frequently removed from graves as a statement of violence against the kin-group to which they belonged, as the exchange of these objects were significant (Klevnäs 2013, 89-90). Finally, inalienable possessions should be distinguished from inseparable possessions, which were items so closely entwined with the body of their owners that there was no choice but to bury the objects with them. They could not be separated, even in death (Klevnäs 2015b, 175). A knife is a good example of this type of possession. The way in which the blade wore down would have depended on how it was used by its owner, and the handle would also have worn to fit a specific hand, so that it may in fact have become difficult for someone else to use. Knives were a symbol of the physical connection between the body and its labour, and this was a bond too intimate to be broken (Klevnäs 2015b, 176-7). Even when graves were reopened to remove objects, knives were almost never taken from them (Klevnäs 2013, 67, Noterman 2016, 416), suggesting a much more intimate connection between that type of object, and the body.

If we accept that the boundaries of the body are not determined by the skin, then objects can be considered a part of the person, following Strathern's observation of the partible person in Melanesian society (Klevnäs 2015a, 10, Strathern 1988, 178). This does not always mean they ended up in the grave, though, as retaining them in society could be a way of keeping part of the deceased person present in the world of the living (Fowler 2013, 517). With this type of object, the connection is not with the person, but with the body, and this was maintained when the living body became a cadaver.

The objects which we find in graves are therefore most likely to have fallen into the category of inalienable or inseparable possessions; the inseparable possessions which we find are most likely to have been personal possessions of the deceased, whereas the inalienable possessions may have been personal possessions, or gifts. Negligible possessions had little value as gifts, and although they may have been included as possessions, their relative lack of connection

with the deceased compared to other types of possessions suggests that they may not have been the first choice as part of a limited repertoire of objects placed in graves. The use of inalienable possessions in graves implies some sort of continued possessive agency on behalf of the corpse. The same is not true of inseparable possessions, though; they remained with the body because they were a part of it, not because they were owned.

Several of these potential explanations for the use of grave goods require the deceased to retain some level of personhood, and some degree of ownership over their possessions. In the concept of personal possessions, this is obvious; but gift-giving, and funeral feasting also imply some ability of the deceased to participate in the world of the living. In some ways, therefore, it is almost not worth the attempt to distinguish between objects which were originally possessions during life, and objects which were given as gifts after death, as both of their presence in the grave implies something very similar, that the dead were capable of possessing objects in some way. We know from other parts of the early medieval world that such continued ownership after death was possible; there is evidence of extensive grave re-opening to retrieve objects, including Viking-Age Scandinavia, and evidence from sagas suggests that the dead retained ownership of the objects in their graves, and that special rituals were required to break those bonds of ownership (Klevnäs 2016, 470). The use of grave goods therefore has the potential to provide information about how the living might have viewed the corpses of the deceased. These ideas will be developed further in Chapter 5.

1.2.4. The Abandonment of Furnished Burial

Many of the potential explanations previously put forward for the seventh-century changes in burial rites hinged on Christianity, particularly conversion, because of the chronological coincidence of the two events in some regions. The late sixth century saw an increase in missionary activity under Pope Gregory the Great, something which continued into the seventh century. The fact that the seventh century in England is commonly referred to as the 'Conversion' period gives an indication of much of the direction of research, and while few would now argue for a direct link between conversion and burial change, this remains a controversial topic (Hines & Bayliss 2013, 15). Hoggett's (2010) study of East Anglia is one of the few to recently argue that conversion caused a change in burial practices, but his argument is based on no more than the coincidence of dates. In other regions of Europe, the two events were chronologically distinct, thus weakening this argument, and it was common in some parts of the Merovingian world to deposit objects in graves for over a century after the conversion, including in cathedrals and churches, in what is clearly a Christian context (Effros 2003, 76, Halsall 2010, 264, James 1988, 139). In fact, after the historically

documented conversion of Clovis and the Franks, grave good deposition became more common (Burnell and James 1999, 87). This could suggest that the Christian funerary ritual failed to adequately address people's concerns about the afterlife (Dunn 2013, 134), but it could also be that there was no defined 'Christian' funerary ritual in this period. Furthermore, more recent revisions suggest that the decline in the use of grave goods in England began before the seventh century, too early to be linked to the written accounts of conversion, and the areas of England that were Christianised last certainly did not retain furnished burial the longest (Hines & Bayliss 2013, 551).

If it were the case that grave goods were explicitly phased out as a result of church policy, then we would expect to find at least some written references to this (Boddington 1990, 188), yet the written record has very little to say on the subject of burial. The fourth- to fifth-century theologian, Augustine of Hippo, suggests that the exact form of funerary rituals was irrelevant, as they were for the benefit of the living, and had no effect on the souls of the dead (Caciola 2016, 44). There are records from the Merovingian world, in which burial with grave goods was recorded in a clearly Christian context, but was not criticised, the implication being that this was perfectly acceptable Christian practice (Effros 2002a, 34-35). For example, Gregory of Tours records a woman 'buried in a church near Metz, together with much gold and a profusion of ornaments' (*History of the Franks VIII.21*, translation Thorpe 1974). There are also some records in which certain types of grave goods are condemned; the Council of Clermont, and the Synod of Auxerre, both occurring during the sixth century, placed a ban on the internment of objects which were necessary to Christian rituals, and on the use of altar clothes as shrouds (Effros 2002a, 45), and some late Anglo-Saxon accounts condemn the use of grave goods because of the waste involved, though not on religious grounds (Thompson 2004, 111) There is a disjoint between the written and archaeological evidence, though, as most of the written sources for the Merovingian world come from the south of Gaul, while the archaeological evidence comes mainly from the north (Effros 2002a, 3). Even cremation was not explicitly condemned as pagan until the eighth century, by which point it was already a minority rite (Dierkins and Perin 1997, 81, Müller-Wille 2003, 444). This comes from the *De Partibus Saxoniae*, written after the conquest of Saxony by Charlemagne in the late eighth century, and which specifically prohibited the 'pagan' customs of cremation, and burial under mounds. This is the first written record we have of both cremation and mound burial being specifically described as pagan (Effros 1997, 269-70). It has been suggested that the real motivation behind Charlemagne's religious prohibition was political control; if Saxons in these regions could not express their identity through burial practice, they could become more easily assimilated into the Holy Roman Empire. The cremation rite was already being

abandoned by the eighth century, and therefore its prohibition was seemingly more of a symbolic declaration than one which would need active enforcement (Effros 1997, 276, 279). However, the use of 'paganism' to condemn these practices does suggest that this link was evident in at least some cases.

Despite these arguments against Christianity having much influence on the funerary rites of the early medieval period, we should not entirely ignore it. Christianisation is not an instantaneous process, but one that can take many decades to complete; we should therefore not expect to see an exact correlation between the first appearances of Christianity and widespread behavioural change. Early Christianity was flexible, with room for regional variation and syncretism, and itself underwent theological shifts. The decrease in grave goods could therefore be linked to a change in interpretation of the afterlife among the families doing the burying (Effros 2003, 88). One potential suggestion is that increasing contact with Irish missionaries, and the introduction of Irish forms of monasticism into the Frankish world caused a reorientation of spiritual belief, which led to less ostentatious, more penitential funerary display (Paxton 1990, 63).

There is a distinction to be made between the religious influence of the church, and its political and cultural influence. The rapidity with which grave good deposition changed across England has been used to suggest some form of control of burial practices, and while this is not necessarily the Church, it would be a likely candidate (Geake 2003, 261). It could be argued that the church did not have the position, or motivation to enforce a standardised burial rite when conversion first occurred, and that this is only something which became possible as its influence grew with time, and care of the dead became the responsibility of the church (Blair 2005, 241, Cherryson 2010, 54, Werner 1973 [1950], 287). Prior to this, burial was the preserve of the family, with all written evidence indicating that funeral preparations took place in the home (Bullough 1983, 187, 191, Effros 2003, 185). The increase in Roman-style artefacts in graves in the decades before the abandonment could have been a result of the Church's links to Rome and the Mediterranean which introduced new styles into the cultural milieu of regions further north. It is almost impossible to argue that burial next to a church had nothing to do with religion, and the earliest church graves in the Frankish world immediately follow the historically documented conversion (Cherryson 2010, 54, James 1988, 145). It is often assumed that cemeteries without churches were controlled by the laity. However, the existence of minsters' satellite cemeteries demonstrates that not all Christian cemeteries had to have a church present, and that the Church could still have had influence over burials in field cemeteries (Buckberry 2010, 19, Cherryson 2010, 55, 67). As the power

of the church and its influence in society grew, it gained increasing control over many aspects of social life, something which may have been politically, rather than religiously motivated. Changing aspects of commemoration linked to the church were also important; from the seventh century onwards, people began to donate to the Church as part of their funeral expenses, so that prayers could be said for their soul during Mass. The public recitation of the names of those who had donated served the same function as grave goods; it acted as a display of status, by demonstrating the wealth of that individual (Effros 2002a, 205-6). Church donations would have provided a more long-lasting demonstration of status, as opposed to the burial of grave goods, which will only have made an impression on those who were present at the burial. Therefore, although they were not explicitly condemned, Christianity could still have had some impact on the use of grave goods.

One, more recent, study has suggested that while the initial decline in England may have begun too early to be linked to religious change, this is not true of the final abandonment. Theodore of Tarsus was an influential archbishop of Canterbury, and according to the revised chronology of Hines and Bayliss, the end of furnished burial coincides with his reforms of the English church (Hines & Bayliss 2013, 553). They conclude that his influence was a major contributing factor in the final cessation of the use of grave goods. However, his reforms were mostly concerned with the authority of bishops, and rules surrounding marriage and divorce. There is no evidence that any of his reforms concerned burial practices, nor would his other reforms be expected to unintentionally have an impact on them. This is also a far from satisfactory explanation for the same phenomenon on the continent.

Some attempts to explain the changes in funerary practices have sought to reject the influence of Christianity altogether, instead pointing to the evidence for increasing social stratification as an explanation. The use of burials to display status is particularly important in periods of political instability (McHugh 1999, 1). With the restriction of elaborate grave goods to a select few, furnished burial became a method by which status was signalled and reinforced (Scull 2011, 852, Scull 2015, 79). The position of these elites was potentially unstable though, making lavish funerary displays necessary. As the social hierarchy became increasingly stable, and status becomes more entrenched in family lineages, the need to display status through burial diminished, and so artefact use ceased altogether (Halsall 2010, 175). Carver, however, emphasises that investment in burial reflects not so much social status, as the need to emphasise it; therefore changes in the levels of investment reflect ideology more than they do actual social hierarchies (Carver 2011, 846). This theory certainly has its merits, but considering funerary practices purely through the lens of power is insufficient, as maintaining

or overthrowing the existing power structures is rarely the primary aim of mourners, even if that is an unintended consequence; rather the immediate concerns are more emotional and less rational (Tarlow 1999, 20-23). Such power displays are important to the elite, but probably not to the majority of people. It also views funerary change as something which is imposed on the majority of the population by the elite at the pinnacle of society, whose increasing wealth meant that there were fewer resources to bury with the majority of the population. This denies the agency of those lower down the social hierarchy in making their own decisions about how to bury their dead in a way that is meaningful to them. Zintl's (2013) study of the Bavarian cemetery of Regensburg-Burgweinting suggests that the decision to bury many of the dead with no grave goods in the seventh century was intentional, not as a result of the poverty of the community.

Williams (2006) has suggested that the transition was less about changing beliefs and more about changing strategies of commemoration. The decline in grave good deposition was not a deliberate removal of objects from graves, but a shift from a burial tableau as a means of memorialisation, to the use of above-ground monuments for the same purpose (Williams 2010, 26). This was not a straightforward transition from one form of funerary commemoration to the other, and during the seventh and early eighth centuries, alternative methods of commemoration co-existed (Williams 2006, 45). Very similar arguments have been made by Effros regarding the same phenomenon in the Merovingian world, although she focuses on the performance of Mass, as well as the use of stone monuments (Effros 2002a, 205-6, Effros 2003, 176). Likewise Halsall's study of funerary practice in the Merovingian region of Metz demonstrates that permanent inscribed memorials became increasingly common at the same time as investments in grave goods was declining (Halsall 2003, 72). He interprets such permanent memorials as a means of projecting status forward into the future, while the earlier, transient funerary display served to look back into the past (Halsall 2010, 255).

Also worth noting is that the end of grave good deposition coincided with the establishment of trading sites, such as Ipswich and Hamwic in England, and Quentovic and Dorestad on the continent. These sites could have provided a more accessible mechanism for the exchange and recycling of artefacts, thus making it less likely that they would be deposited in the grave when there were more profitable ways of disposing of them (Boddington 1990, 189). The value of objects placed in graves was not just economic, and viewing them through this lens ignores the symbolic meaning of objects, beyond the price for which they could have been sold (Effros 2003, 97). Hines (2017, 19) has suggested that there could have been a change in

the organisation of craft production, which brought limited levels of creativity, and could account for some of the changes seen in the range of grave goods, as well as their quantity, although there is little evidence to support this. The establishment of such trading sites contemporary with widespread changes in burial practices indicates increasing levels of economic connectivity, which could provide one mechanism by which such a large area underwent contemporary changes. This is something which will be discussed further in Chapter 2.

The causes of the transition from furnished to unfurnished burial are undoubtedly complex; burial practices are not influenced by just one factor, and therefore we should not expect to attribute change in these practices to one single cause (Rebay-Salisbury 2012, 21). What many approaches lack is an appreciation of the scale of the change, occurring in multiple different countries. The review above has demonstrated many similarities in burial practices between different regions of Europe, but as few of these previous studies sought to explicitly compare them, it is difficult to say from a literature review alone, how much the transition from furnished to unfurnished burial was really similar between these regions, and how much it varied. It is only by bringing together data on the transition from multiple regions across Europe, that it is possible to understand how this phenomenon spread, and the extent to which it was characterised by regional differences.

1.3. Chronological Research

As the principal concern of my thesis is change over time, the accuracy and precision of dating methods is key to the accuracy and precision of my conclusions; all arguments made throughout this thesis are dependent on the assumption that the chronological information I have relied on is correct. This is an assumption which should be critically evaluated. Different dating methods have different levels of accuracy, and the frequency with which these methods are used varies between regions, sometimes quite considerably. The dates of burials and cemeteries can be obtained through scientific methods such as radiocarbon dating and dendrochronological dating, or through artefactual evidence in the form of typo-chronologies or coin dates, all combined with stratigraphic evidence.

For the purpose of this research, two different questions of dating are relevant; the first is the length of time which cemeteries were in use for, something which must be determined for every cemetery used in the thesis. The second is the more precise date of individual burials within a cemetery, something only determined for the select few cemeteries which were studied more in depth. These two different approaches require slightly different evidence to be available.

1.3.1. Methods of Dating

1.3.1.1. Dendrochronology

For individual burials where there is sufficient preserved wood, dendrochronology can be used. This is perhaps the ideal dating method, as it can date wood to within a year. While this gives us the date of felling of the tree, and not necessarily the date of the burial, it is usually obvious when wood has been reused for a coffin. However, dendrochronology requires a reasonably large sample of wood, ideally one with at least 100 rings visible (Kuniholm 2005, 35), and this survives only in exceptional circumstances, and rarely in enough graves from one site to be able to indicate the timespan the entire cemetery was in use for. Cases such as the late Anglo-Saxon cemetery at Great Ryburgh, where 81 burials in log coffins or plank coffins, all of which have been sampled for dendrochronological dates (Champion, pers.comm.), are the exception. More common is the example of Beerlegem, a cemetery in Belgium, where only one burial could be dated using dendrochronology to 587 ± 10 (Roosens 1977), and only in Germany is there a relatively large number of dendrochronological dates (Hines 1999a, ix). While this is a far more precise date than can be obtained by any other method, it is too dependent on exceptional preservation to routinely be of use, and was only available for a minority of cemeteries studied here.

1.3.1.2. Radiocarbon Dating

Radiocarbon dating is a more feasible method of scientific dating than dendrochronological, as human bone survives much more frequently than wood does, although it is still not present in areas of particularly poor preservation. Radiocarbon dating can directly date the death of the individual, and by extension, the date of the burial, as there is little evidence for an extended period of time between death and final burial in the early medieval period. However, the date range it provides is often quite broad. This is especially true of the fifth to early sixth, and the late seventh and eighth century, where plateaus in the calibration curve means that dates from within this crucial transitional period are imprecise, often spanning over 150 years (fig. 4, Hines & Bayliss 2013, 35). There is also a huge variation in the frequency with which radiocarbon dating is used by archaeologists across Europe. On the continent, radiocarbon dating is much rarer than it is in England (Hakenbeck 2011, 43), particularly in Germany.

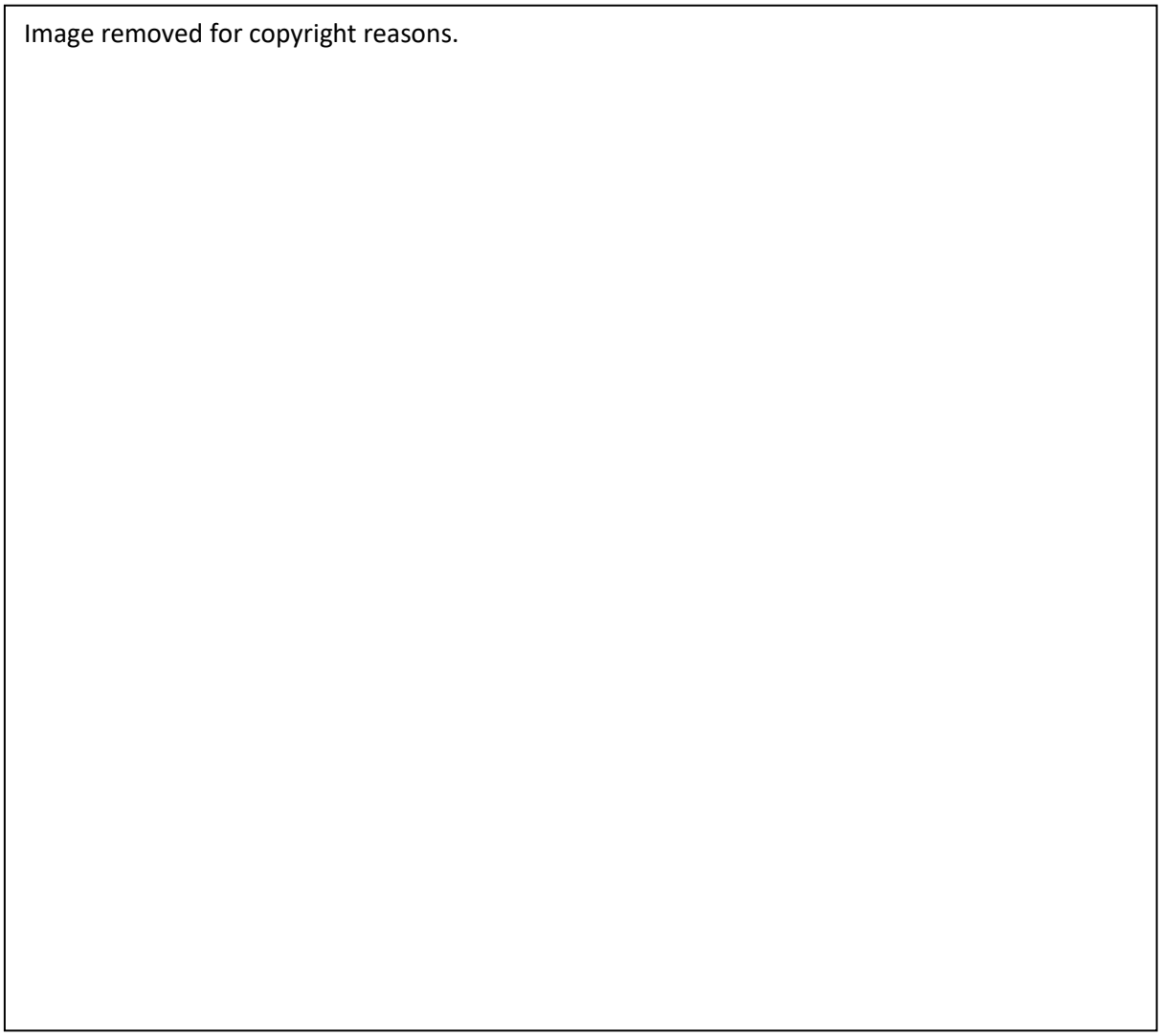


Figure 4: The radiocarbon calibration curve between 500 and 900 (Reimer, et al. 2013). Problematic plateaus highlighted.

The other issue with radiocarbon dating is the potential for marine reservoir effects. This is the process whereby somebody who consumes a large amount of marine protein will have a radiocarbon date as much as four hundred years older than should be the case, due to differences in the way carbon-14 is stored in sea water, compared to the atmosphere (Malainey 2011, 98-99). The reservoir effect can be even greater in the case of some rivers and lakes, and is highly variable dependent on underlying geology (Fernandes *et al.* 2016, 290). This can be assessed through stable isotope analysis. All of the Anglo-Saxon graves which were dated as part of Hines and Bayliss' study were also subject to stable isotope analysis, and their dates were adjusted accordingly (Hines & Bayliss 2013, 30-328, 440-449). Although stable isotope analysis is now a standard part of radiocarbon dating, there are many examples, some quite recent, where it was unclear whether or not such analysis had been carried out, and in multiple cases where radiocarbon dates were reported uncalibrated, this was unlikely; when this was the case, the dates were calibrated using Reimer *et al.* (2013), using the terrestrial curve in the absence of information to the contrary. We therefore cannot dismiss the possibility that some of the dates used are drastically wrong. In some instances, it is easy to spot these burials; for example, at the cemetery of Largillay-Marsonnay in the east of France, one radiocarbon date was obtained for a grave which stratigraphically seemed to be late in the cemetery's use. However, the radiocarbon date suggested the grave dated from anywhere between 431 and 603, considerably earlier than the twelfth-century T.A.Q. established by residual pottery in the grave (Billoin *et al.* 2006, 251). The possibility of a marine reservoir effect was never considered for this individual, but may go some way to explaining the contradiction between the radiocarbon date and stratigraphy. In many instances, though, it is impossible to identify such anomalous dates, thus throwing doubt on the accuracy of some of the dates obtained.

1.3.1.3. Stratigraphy

For establishing a relative chronology within a cemetery, stratigraphic relations between graves are one of the most valuable tools. However, cemeteries across the early medieval world are renowned for the lack of intercutting between graves. Where stratigraphic information does exist, the later burial has often disturbed the earlier one to the extent that little can be said of it (Hakenbeck 2011, 37). Stratigraphic relations can therefore only rarely be brought to bear on questions of dating, though they can be useful when built into another method, such as seriation.

It is sometimes possible to use horizontal stratigraphy and see an early 'core' area of burial, from which later burial spreads out. While it is a technique more commonly used to approach

French and German cemeteries, it can only provide approximate relative dates, and unlike vertical stratigraphy, it is rarely possible to achieve even a *terminus post quem* for graves. It is also a less useful technique for Anglo-Saxon cemeteries, which commonly had multiple burial foci in use at once (Sayer 2013b, 155), making it impossible to see a linear progression from one point. Stratigraphy is therefore only of use as a tool alongside other chronological methods.

1.3.1.4. Numismatics

Coins were found in graves relatively frequently, and they can be dated precisely using numismatic chronologies. However, they only provide a *terminus post quem* for the date of the burial, not its exact date. The frequency with which coins were deposited also fluctuates with time; few are found in the seventh century, for example (Theune 1999, 26). The supposed accuracy of these coin chronologies, at least in Anglo-Saxon England, has been thrown into doubt by Hines and Bayliss' recent work, which contradicts dates derived from coins by up to 20 years. The relative numismatic and archaeological phases are compatible, however, and it is only the absolute dates which are contradictory (Scull and Naylor 2016, 208). Therefore, I have relied more on coin dates, even when some of the typo-chronological information contradicted them.

1.3.1.5. Typo-Chronologies

By far the most common method of dating early medieval burials is the use of artefactual typo-chronologies. These can be based on a single-artefact type, such as Brugmann's work on beads (2004), or Swanton's typology of spear heads (1974), or they can be a seriation of the entire assemblages found in graves, based on one or multiple sites. In older reports, it is not uncommon to find a list of artefacts with centuries attached to them, but with no indication of how these associations were arrived at.

Seriation was a method first developed by Flinders Petrie for the phasing of predynastic Egyptian graves (Petrie 1899). The exact method by which the graves can be seriated is variable, and ranges from visual inspection to complex statistical methods such as correspondence analysis. The resulting ordered series of graves is then split into phases, which are assigned absolute dates on the basis of coin-dated graves, and dendrochronology, or more rarely with radiocarbon dates. Seriations are usually split by sex, given that male and female graves have the potential to contain quite different objects, which would affect a seriation. It has been suggested that such seriations should also be split by age of the deceased, given that the types of objects deposited also vary with age (Kars 2011, 21). I am not aware of any instances where this has been attempted, however, possibly because doing so

would produce very small groups, especially within a single site. The product of this process is a typo-chronological scheme, in which certain artefacts are given date ranges in which they are used, and subsequently (or previously) excavated burials can be dated with reference to those ranges. Seriation can be carried out within a single cemetery, or across regions. Within a cemetery, it gives a precise chronology for that individual site, but this may not be applicable to other cemeteries. Seriations carried out across a region have the advantage of a lot more data, but geographic variation in artefact use means that less detail is possible, and wider phases must be used.

Seriation is almost universally viewed as an accurate, and reliable methodology, with the chronologies produced by such methods held as a gold standard (Kars 2011, 13). However, they should not be used uncritically. The first step of any typo-chronological scheme is to create artefact typologies. These are subjective categories that may have had little relevance to the people who originally used such objects (Hines 1999a, viii). Given that this forms the basis of the seriation, variations in typological classifications can have a huge effect on the eventual chronology produced (Kars 2011, 18). Likewise the phase boundaries created by seriations are an oversimplification of a more complex reality, and it is far more common to see a gradual transition between phases than a clear break (Hines & Bayliss 2013, 491, Kars 2011, 21). Often there are no clear groups visible in a seriation, making the lines drawn between phases somewhat arbitrary, and given this, long phases are preferable so that they are less in conflict with historical reality (Kars 2011, 21-22). Less commonly critiqued is the assumption that morphological change necessarily relates to change over time, a fundamental assumption which underpins all typo-chronological studies (Kars 2011, 18). This fails to take into account circulation patterns however, and when in someone's lifecycle they acquired the objects that were placed in the grave with them. Objects which are acquired through inheritance will distort a grave's place in a seriation (Kars 2011, 44); fig, 5 indicates the effect that this can have. Seriations which produce short phases should therefore be treated with more suspicion, as they are more likely to be affected by chronological differences in the acquiring of objects, and the death of an individual.

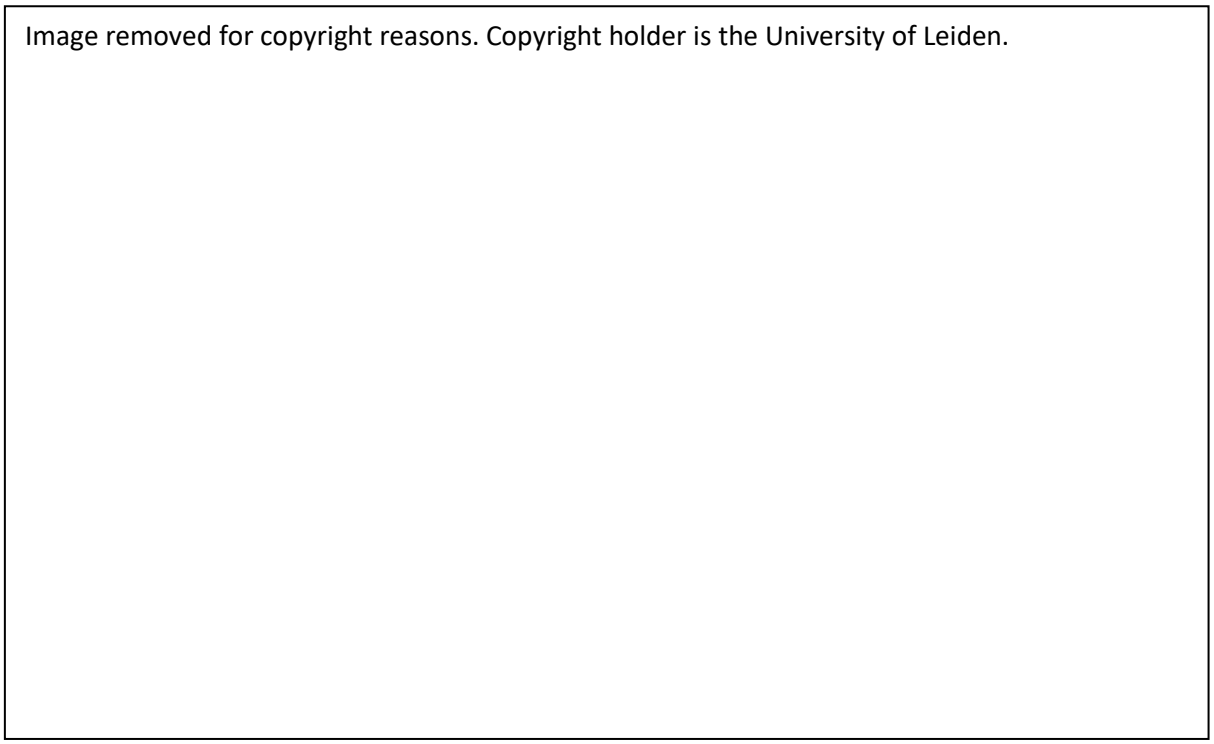


Figure 5: Tables demonstrating how the lifespan of an individual can affect the chronological phase their grave is dated to (Kars 2011, 20)

1.3.1.6. Unfurnished Burials

Of the methods discussed above, the most commonly used is the typo-chronological approach. Despite its potential shortcomings, it is relatively easy to apply, and compared to some of the more scientific methods, cost-effective. However, it has the distinct disadvantage that it can only be used to date graves containing objects. This means that far fewer unfurnished graves and cemeteries have precise dates. Radiocarbon-dating is an expensive process and given how broad a range it can sometimes give, it is not surprising that few archaeologists are willing to spend large amounts of money to gain only imprecise dates.

There is often an assumption that unfurnished graves occur later than furnished graves, and therefore do not need to be scientifically dated. This is true both of cemeteries, which are often described as ninth- to tenth-century simply because they contain no grave goods, and also individual graves within cemeteries, which are sometimes assumed to be the last phase of burial, even where there is no independent evidence of this (see Legoux 2001, discussed in Chapter 4, for an example of this). However, unfurnished burial was practised in roughly equal proportions throughout the fifth to seventh centuries (Hines & Bayliss 2013, 524). When scientific dating is undertaken, as at the site of Regensburg-Burgweinting, for example, it can show largely unfurnished burial contemporary to other more richly furnished cemeteries in the seventh century (Zintl 2013, 395). The combination of these factors means that there are fewer securely dated unfurnished cemeteries and burials available for analysis than

furnished ones. For example, in 2009, fewer than 50 post-seventh-century Anglo-Saxon field cemeteries had been identified (Astill 2009, 224), and many of these have not been subject to scientific dating. There is therefore an insurmountable bias in the sample towards earlier, furnished cemeteries; while it is broadly true that unfurnished cemeteries are more likely to be later than furnished ones are, without concrete evidence of this in each instance, these cemeteries cannot be included, as this would create a circular argument

The lack of radiocarbon dating can also be a problem for identifying the earliest burials on a site. Graves from the early to mid fifth century were also often unfurnished, and so without more accurate dating, it is difficult to tell how much continuity there was with Roman burial on a site (Fehr 2015). In many instances, as will be demonstrated in Chapter 4, grave good use at the very start of a cemetery's use in the fifth century was low, before it reached a peak in the sixth century. It is especially problematic, therefore, to assume that all unfurnished burials were later than furnished ones.

1.3.2. Regional Variation in Chronologies

As already indicated, the quality of chronological work on early medieval burials varies considerably across Europe, as do the methods favoured. Typo-chronological studies on the continent have a long history, and vary from small-scale, individual cemetery analysis, to broader regional studies. Perhaps the earliest was Werner's (1935) work on graves in southern and western Germany, based primarily on coin-dates. This carried the fundamental flaw, however, of using written sources to date changes seen in the burial record (Hakenbeck 2011, 41). This was built on by Böhner's (1958) study based on cemeteries around Trier. This produced broad phases, of 50 years, and was deliberately a crude chronological framework, so as to provide a reasonable overview of chronological change that could be applied to a wide area (Böhner 1958, 12-13). Although it was developed based on a reasonably small region, it has been applied in cemeteries well beyond Trier, across both France and Germany. It was undoubtedly influential, and it formed the basis of many later chronological analyses. Ament's (1977) study built upon Böhner's chronology, but integrated recent cemetery excavations, and the additional, smaller chronological studies which had followed it, to produce six phases between 450 and 720, three belonging to the early Merovingian period (*Ältere Merowingerzeit*), and three to the later Merovingian period (*Jüngere Merowingerzeit*). Ament's chronology is still reasonably reliable; the phases developed for the more recent Chronologie Normaliseé (Legoux *et al.* 2004) differ by only ten years. These chronologies, despite being developed for small regions, have been used across Germany, France, and

surrounding countries, but other chronologies have been developed which are more regionally specific.

1.3.2.1. Alamannia

This region of Germany is characterised by detailed chronological analysis into many individual sites (Theune 1999, 25). Theune's (1999) study of the cross-regional applicability of these typologies, using the cemetery of Weingarten as a comparison, found that there was good correlation between the schemes developed for different cemeteries, suggesting that they can mostly be relied upon (Theune 1999, 26). Occasionally, those developed for one site are applied more broadly; the cemetery of Schretzheim (Koch 1977) was particularly used for this purpose. It has been replaced as the standard chronology for south-western Germany by the chronology developed for Pleidelsheim (Koch 2001). This has the advantage over Schretzheim of being based not just on one cemetery, but on a large number from the region. The phases of the Pleidelsheim chronology are also longer than those of Schretzheim, thus making it more likely that they reflect reality (Kars 2011, 116). Pleidelsheim's chronology was based on graves from 45 cemeteries across southern Germany, and divided the period into ten phases, between the years of 430 and c.670. The methodology used to create this chronology is opaque, however. It was developed using some form of correspondence analysis, but no details were given showing the exact methodology, or the number of graves involved. How the absolute dates assigned to the phases is also left unclear. More recently, Friedrich (2016) has undertaken a similar study, but with far more transparent methodology, and with phases of 40-60 years. Of the 82 objects classified under Koch's chronology, only 11 had significantly different dates under Friedrich's analysis, and in most of those instances, there was still some overlap in date, but the objects were assigned to much longer phases. This study may well become the dominant one for Alamannic cemeteries.

1.3.2.2. Bavaria

In comparison with south-western Germany, chronological research in the south-east has been somewhat limited. The chronologies from the western regions have often been applied to those of the eastern regions, without taking into account the different cultural context. The only extensive chronological analysis for this region, in the form of a seriation, is Hakenbeck's 2011 study, which covered five cemeteries around Munich, although Friedrich's (2016) study also included data from several Bavarian cemeteries. Many cemetery reports from this region, though, give no indication of how the dates they specified were arrived at.

Radiocarbon dating has been historically underused in this region, and the only well-published Bavarian cemetery included in this thesis with radiocarbon dates is Aschheim

(Dannheimer and Diepolder 1988). However, radiocarbon dating seems to be becoming more popular in Bavarian archaeology, and a recent issue of *Bericht der Bayerischen Bodendenkmalpflege* (vol.54, 2013) contained a section dedicated to the use of radiocarbon dating in early medieval archaeology.

1.3.2.3. Lower Rhine Region

The principal chronology for the Lower Rhine region is that of the *Franken Arbeits Gruppe* (FAG) (Müssemeier *et al.* 2003) which was developed from the earlier chronological work of Siegmund (1989) in roughly the same region, and largely confirmed it. On the basis of a seriation of graves from 42 cemeteries, ten phases were created, lasting from 400-750. The chronology of the FAG also improved on the work of Siegmund by lengthening some of the phases into which the seriation is divided (Kars 2011, 103-5). This chronology is often the principal reference work for cemeteries in the Netherlands as well.

1.3.2.4. Northern France

The principal chronological study in northern France is the *Chronologie Normaliseé*, a 2004 study by Legoux, Périn, and Vallet, based on work by Périn (1980). The chronology was constructed by means of seriation analysis of 1200 graves from 70 cemeteries, which created seven phases between 440 and 710. The phases were then assigned absolute dates on the basis of coin-dates, and dendrochronological dates from 143 of these graves (Legoux *et al.* 2004, 3-4, 12).

Radiocarbon dating is not as rarely used in France as it is in Germany, and was available for many cemeteries, where it was often used in conjunction with the *Chronologie Normaliseé*.

Continental research into chronologies is limited to the areas described; in the more northerly regions of Germany, Saxony and Schleswig-Holstein, there had been less chronological research, and that which exists is mostly limited to the fifth century (Hines & Bayliss 2013, 481). That is one of the reasons that these areas are much less of a focus in this thesis than the areas previously mentioned.

1.3.2.5. England

The chronologies used to date English graves have always been less precise and robust than those used on the continent, partly because of a high-level of regional variability in English graves, particularly in female dress (Scull & Bayliss 1999, 80). While there is a long history of chronological studies based on individual artefact types, (e.g. Swanton 1974 for spear heads, Brugmann 2004 for beads, Avent 1975 for disc brooches, and Hines 1997 for great square-headed brooches), and there have been some regional studies (e,g. Brugmann 1999,

Hines 1999b, Scull & Bayliss 1999), as well as individual cemetery chronologies, until recently there was no overall schema comparable to continental typologies, and the smaller studies were difficult to integrate. It was therefore hard to date a grave more precisely than 'migration phase', corresponding broadly to the fifth and sixth centuries, and 'final phase', corresponding to the seventh and early eighth century. It could be that the chronology of Anglo-Saxon material is not capable of being divided into the short, compact periods seen in most of the continental work on chronology (Hines 1999b, 77). Occasionally continental chronologies were applied to English material, and in Kent, good correlation in the dates of artefact use has been demonstrated, but we should still bear in mind the potential differences when looking at the same objects used over a wide area (Brugmann 1999, 45, Hines & Bayliss 2013, 89).

A large-scale chronological study by Hines and Bayliss (2013) attempted to rectify this situation and provide a chronological framework comparable to the *Chronologie Normaliseé*, and the FAG. Their study used existing artefact typologies, some of which they refined, which were then sorted into a seriation using correspondence analysis. The seriation included all graves that contained at least two objects from 224 cemeteries. Chronologically anomalous cases where late survival might be expected were removed (Hines & Bayliss 2013, 252, 491). The phases identified in the seriation were then assigned calendrical dates using high-precision radiocarbon dating in a series of Bayesian statistical models (Hines & Bayliss 2013, 33). This created a series of five phases of male artefacts, and four phases of female artefacts, between 510 and 685. This excludes the earliest period of Anglo-Saxon furnished burial, for two reasons; first, the plateau on the radiocarbon calibration curve between 425 and 550 makes precise dating in this period impossible. Second, early Anglo-Saxon artefacts show high levels of regional variation, introducing another level of complexity into the process (Hines & Bayliss 2013, 35). The final seriation included 300 female graves, 52 of which had radiocarbon dates, and 272 male graves, of which 29 were radiocarbon-dated.

However, there are potential problems with the accuracy of the chronology, suggested by the coin evidence. In seven graves towards the end of the sequence, the dates suggested by coins were up to 20 years later than those suggested by the Bayesian analysis (Archibald 2013, 493, 508). Parts of the chronology can be independently validated, as it matched that developed on the continent, for the entire male, and the early part of the female sequence (Hines & Bayliss 2013, 305, 436). The earliest phases were not fully sampled, however, and were provided primarily to provide a context for the seventh-century changes that the project was initially interested in (Hines 2017, 5). While it is unlikely that there was an un-observed later phase of

furnished burial (Hines & Bayliss 2013, 510), it is entirely possible that the end of the sequence has been 'squashed' by these statistical methods, particularly the removal of anomalies, resulting in an earlier end to furnished burial than was the case in reality. There may of course be inaccuracies in both the coin and the Bayesian model.

Hines and Bayliss' chronology was relied upon for this thesis, despite its potential issues, as it provides a standardised chronological model for England. However, as with many of the continental chronologies, it should be treated with caution; it is a model of the past, and like any model, is not perfect (Hines & Bayliss 2013, 32). For furnished cemeteries, only those dated by Hines and Bayliss have been included in the English sample, but where contradictory coin or radiocarbon dates existed, these have been favoured over the dates provided by the chronology.

Throughout this thesis, where their seriation has been compared to previous chronological work, it has been found to be largely reliable. However, the dates of the leading artefact types they give are more suspect. This might be because of the nature of seriation analysis, whereby anomalous graves are excluded from the sequence; many artefacts may therefore have the potential to be used outside the narrow ranges specified. These are also problems stemming from some of the initial typologies. Completely new typologies were developed for spearheads and shield bosses, using metric measurements to attempt to create an objective form of classification. What it fails to take into account, however, is that in corroded iron items, there is subjectivity in measuring length and width as well. It is therefore possible to measure the same items featured in Hines and Bayliss, and yet classify them differently more often than the same (Welton, pers.comm.).

1.3.3. Chronological Approach

On the whole, cemeteries which had no indication in their reports of how their date-range was arrived at have been excluded from the in-depth analysis, although they have been included in a more general discussion, particularly in areas where there were few precisely dated cemeteries. When it comes to the typological schemes, cemeteries which are only dated by the earliest schemes have been disregarded. The favoured schemes for each region were Hines and Bayliss, the *Chronologie Normaliseé*, the FAG, and that developed for Pleidelsheim in Alamannia. However, the latter three covered fewer cemeteries than Hines and Bayliss does, and so it is not possible to use them exclusively for those regions.

Aside from the problems of dating the lifespans of cemeteries, a further problem was encountered when trying to date individual graves within cemeteries. Many of the broader

typologies are not sufficiently detailed to be able to date individual graves with the precision required for analysis of a single cemetery (Hakenbeck 2011, 43). Far fewer cemeteries are therefore available for individual analysis, only those which have been subject to extensive chronological analysis in their own right, though even this was not always sufficient.

The issue of comparability is an important one to consider, particularly in regions where there is no overall chronology to act as a standard. Synthesising the various chronological schemes from different parts of Europe has always been challenging (Hakenbeck 2011, 43). Particularly in regions such as Bavaria, and Alamannia I have been forced to directly compare cemeteries which were dated by quite different methods, and this may have an effect on some of the statistical results in particular, which must be borne in mind. Hines and Bayliss' chronology, when compared to the largest continental typo-chronological studies, the *Chronologie Normaliseé*, the FAG, and Pleidelsheim, showed good correlation between certain artefact types, and so most likely are broadly comparable, however (Hines & Bayliss 2013, 480).

2. Changing Funerary Practices across a Continent

2.1. Methodology

2.1.1. Approaching Early Medieval Cemeteries

The sample on which this thesis is based consists of 33,690 graves from 246 cemeteries in six modern-day countries; the UK (specifically England), France, Belgium, the Netherlands, Germany, and Switzerland. There are, of course, many more early medieval cemeteries which have been excavated in these countries; in order to be included in this thesis, however, the cemeteries had to fulfil certain criteria. At the very least, the reports available for the cemeteries had to give an indication of how common grave good deposition was, whether or not there was a church present, and they had to have reliable dating evidence, as discussed in chapter 1.3. In order to limit the sample to a manageable size, only cemeteries with more than 20 graves were included. However, in some areas where there was a relative paucity of suitable cemetery reports, particularly in northern France, slightly smaller cemeteries were also used. Some cemeteries were also found to fall below this threshold when disturbed graves were excluded, but were still retained. A full grave catalogue was preferred, but was not always necessary, and where a more limited report had, for example, indicated only the number of unfurnished burials, the cemetery was included in analysis for that particular category, but excluded for others. Only inhumation cemeteries were included, and within mixed-rite cemeteries, only inhumation burials were included in the numbers. More specialised cemeteries, such as execution cemeteries and mass graves, have also been excluded from the dataset. The special attention that these burials receive means that there are many well-recorded and securely dated cemeteries available (see Reynolds 2009 for a catalogue of Anglo-Saxon deviant burials, for example). However, given that these burials result from atypical circumstances of execution, or mass death, and do not represent normal funerary practices, I have excluded them here.

For each cemetery, the number of objects per grave, the number of furnished as opposed to unfurnished graves, and numbers of graves containing each of the different types of objects (Table 1) was recorded, along with the size of the cemetery, and the presence or absence of a church. The number of objects per grave was counted as the minimum number which could possibly have been present; beads were always counted as one object, to avoid large necklaces artificially inflating the number of objects present. Assorted fittings and fragments were also usually classed as one object because of the difficulty in identifying them, unless there was clear evidence that they had originally come from separate objects. Counting objects is a somewhat crude measure of the wealth of a grave (Pader 1982), and should not be used

uncritically, not least because the number of objects excavated is rarely the number of objects initially buried; it should not be entirely dismissed, however, as it is a useful way of regularising comparisons between different cemeteries (Stoodley 1999, 91). Because of the issue of preservation bias, cemeteries with exceptional levels of preservation, such as Oberflacht in Alamannia (Schiek 1992), have not been included, as they are not comparable to those with more typical preservation.

The main period of study was the sixth to eighth centuries, but, as few cemeteries conform neatly to this time span, there are also many graves included which fall outside of this range. All that was necessary for a cemetery to be included was that it was used at some point during the sixth to eighth centuries. Given that I am primarily interested in the seventh-century decline in grave good use, I have not analysed cemeteries which were solely in use during the fourth and fifth centuries, where questions of the appearance of furnished burial dominate. The nature of transition from Roman to early medieval burial rites is a separate topic in its own right, but is beyond the scope of this thesis. Additionally, Hines and Bayliss' chronology covers only the sixth and seventh centuries, beginning in 510, and so the dating of fourth- and fifth-century cemeteries, in England at least, is less secure.

2.1.2. The Effects of Grave Disturbance

The issue of disturbance, both deliberate and accidental, is an important one to consider, as it may have affected the numbers and types of objects extant in graves when they were excavated. Disturbance can take one of two forms; accidental disturbance, either in antiquity or modern times and deliberate disturbance, in the form of grave reopening.

Grave reopening was a common phenomenon across Europe, but it affected some areas disproportionately and peaked in the seventh century. It was less common in England than on the continent, but Kent was particularly affected, especially in the east (Klevnäs 2013, 34). The motivations behind contemporary grave reopening are debated, but it seems that pure wealth acquisition was rarely the sole motivating factor, as valuable objects were frequently left in graves. Although the practice of grave reopening occurs across the continent, there are some differences in the types of objects being removed from graves. Swords and brooches were most commonly targeted (Klevnäs 2013, 68-71). Buckles were usually left, but in Merovingian graves more elaborate ones were sometimes taken (Noterman 2016, 416). Vessels were almost always left in continental graves, but removed from Kentish ones (Klevnäs 2013, 67). Possible explanations for this phenomenon are that grave reopening was used as a weapon in small-scale conflicts, as a means of slighting a family by removing important objects from their ancestors (Klevnäs 2013, 83). Others view it as a less violent

phenomenon, seeing it as a part of extended funerary rites, a form of interactions between the living and their ancestors (van Haperen 2010). Whatever the motivation, which may well have varied in different regions, grave reopening will have affected the number of objects surviving in the grave, and so needs to be taken into account.

Where cemeteries have recently been reanalysed for evidence of reopening, this information was included. However, where a cemetery had not been reanalysed, the judgement of the original report had to be relied upon as to whether or not a grave had been disturbed, deliberately or accidentally. Older reports are likely to underestimate the amount of deliberate grave-reopening. As an example of this, Aspöck's study of the Anglo-Saxon cemetery of Winall II suggested that 25 out of 45 graves had been reopened, despite originally only one such grave being identified (Aspöck 2011, 315). However, close reanalysis of the remaining cemeteries using the methods outlined by van Haperen (2011) and Klevnäs (2013) in order to determine any overlooked reopening was beyond the scope of this thesis, and in many instances would not be possible with the level of detail present in the original excavation reports

The disturbance of graves will undoubtedly have had an effect on the survival of grave goods within them. Accidental disturbance is more likely to result in complete loss of grave goods, regardless of type. There are also instances, though, where the burial was accidentally disturbed, but objects remained clearly associated with the disturbed remains, and it is impossible to tell how many were lost. Reopening was much more targeted; graves which were known to be richly furnished would have been reopened in order to remove a specific item. Where accidental disturbance has occurred, numbers of all types of grave goods will have been artificially lowered; excluding these disturbed graves will therefore give us a clearer picture of the type of grave good provision which originally existed. However, where specific graves are being targeted for specific types of objects, only certain categories of grave goods will have had their numbers artificially lowered; excluding those graves could in fact mean excluding the richest graves from the sample, which may only have had one or two objects removed from them. This might not be a problem if grave reopening were a common practice throughout the early medieval period; after all, it is highly unlikely in any instance that we have the entirety of the original burial assemblage due to preservation biases. However, grave reopening is not constant over time, but instead seems to be restricted to the late sixth and seventh centuries across large parts of the early medieval world (van Haperen 2010, 13, Klevnäs 2013, 83, Noterman 2016, 422). It could therefore have an effect on how the numbers of surviving objects in graves change over time. The decision on whether or not

to exclude disturbed graves from analysis has thus been taken on an individual basis for each cemetery. Where excluding disturbed graves raised the average numbers of objects in a cemetery, it was assumed that disturbance had contributed to the loss of artefacts from graves, and therefore disturbed graves were excluded. Where excluding disturbed graves lowered the average numbers, however, it was assumed that richer graves had been disproportionately affected by disturbance, and therefore those graves should be included in analysis in order to recreate the original burial assemblages as accurately as possible. It is impossible to completely mitigate for disturbance, but these measures will reduce its effect on grave good numbers as much as possible.

Levels of disturbance, or at least, levels of recorded disturbance, vary considerably across the study area. Fig. 6 demonstrates the variability in grave disturbance between regions, varying from as low as 5% of graves in Normandy, to over 40% in the neighbouring region of West Frankia. Some of this variation is undoubtedly due to natural factors, such as soil acidity; it is not possible to identify disturbance if the skeletal remains are not sufficiently well-preserved to be able to distinguish whether or not the burial had been disturbed (Klevnäs 2013, 8, Noterman 2016, 158). The level of modern development in an area will have had an impact on the likelihood of graves in a cemetery being disturbed in recent times. In the north east of France for example, some cemeteries were disturbed by trenches from the First World War Front (Noterman 2016, 416). But there is evidence that as well as being a widespread phenomenon, grave reopening was also a local one, so that some cemeteries were heavily affected by it, while nearby cemeteries remained untouched (Klevnäs 2013, 90, van Haperen 2010, 3). The average figures given in fig. 6 mask a great deal of variation between cemeteries in those regions.

Another potential reason for discrepancy between regions is the focus of modern studies into grave disturbance, and how aware excavators are of the indications of grave reopening. This can be seen by looking at the numbers of excavation reports where grave disturbance was not recorded. This varies from 15% of reports in Kent, largely due to Klevnäs's study focusing on the region, to almost 80% of cemeteries in Burgundy where many reports provided no indication of whether or not graves had been disturbed.

Fig. 6 also indicates the way disturbed graves have been treated in the statistical analysis, showing the percentage of cemeteries from each region in which the disturbed graves were either excluded, or included from statistical analysis. This too varied considerably between regions; on the whole, disturbed graves were excluded more frequently than they were included, with the exception of those in Normandy and east Frankia. Appendix 1.5 provides

full details on the level of disturbance for each cemetery, and how the disturbed graves were treated in each instance.

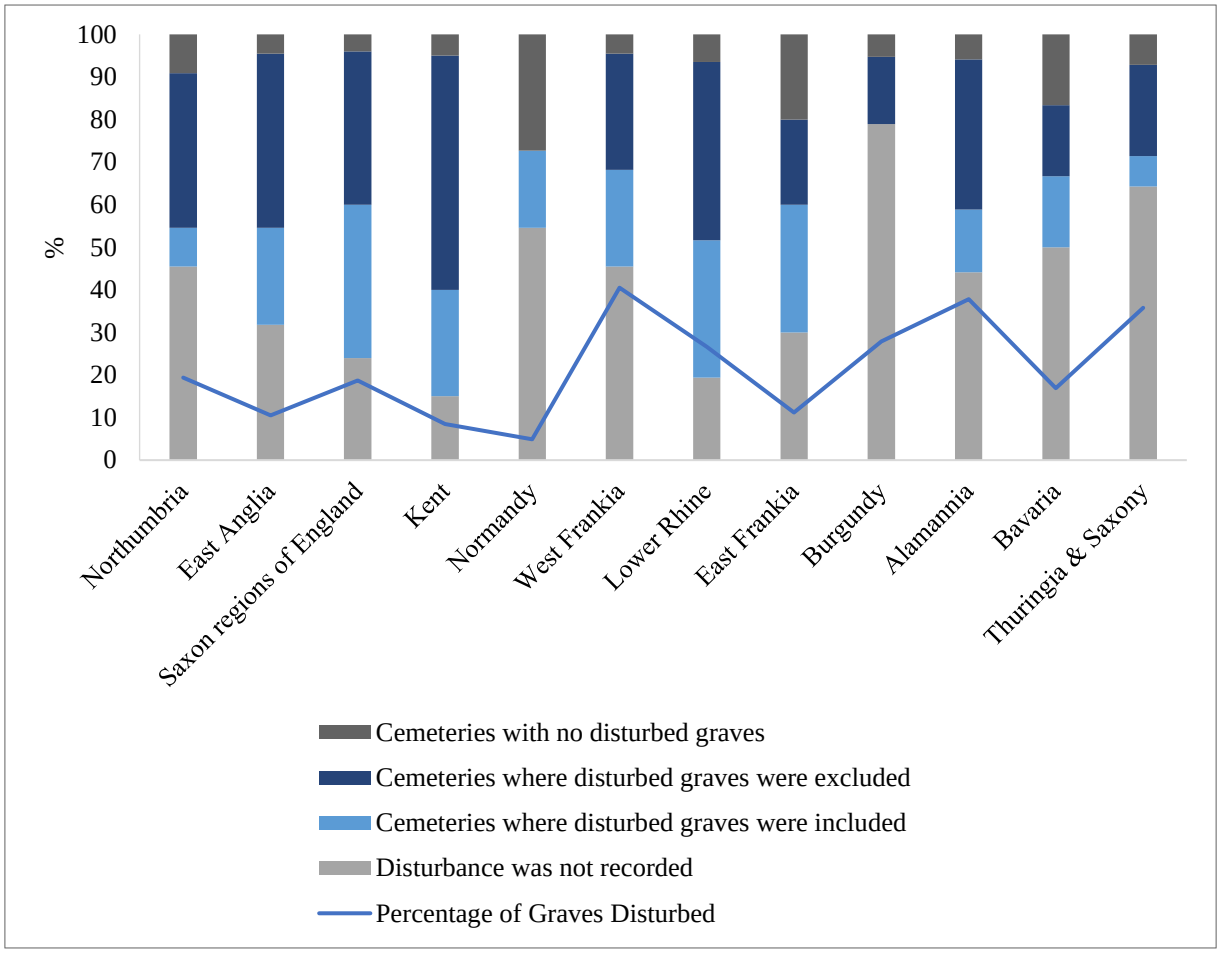


Figure 6: Levels of disturbance in different regions, and how they were treated as part of this study. For details of how regions were divided up, see chapter 3.

2.1.3. Categorising Grave Goods

It was necessary to categorise the wide range of potential grave goods in order to aid analysis. This was done broadly on the basis of function, rather than looking at individual object types, or even variations of the same object type; distinguishing between different types of belt buckle, for example, is not important in this instance, as all belt buckles serve the same purpose in the burial, and including information about shape, material, or decoration could have obscured the more meaningful differences in use (McHugh 1999, 63). The categories used are defined in Table 1.

It is important to remember, however, that these are constructed categories, and there are other ways of grouping object types together which may produce different results. The decisions made when forming categories even as broad as these are subjective (McHugh 1999, 63).The functions of objects are not always self-evident, and just because, to modern eyes, an object is viewed in a certain way, it does not mean that the people who buried it

viewed it as having the same function. The distinction between 'dress accessories' and 'jewellery' is a tenuous one; I have defined 'dress accessories' as objects which are integral to costume, and jewellery as objects which embellish a costume, but even this distinction makes some assumptions about what is and is not integral to a costume. Brooches in particular can fulfil both roles, in some instances proving integral to the costume, such as the brooches found in pairs at the shoulders to hold up a peplos dress (Owen-Crocker 1986, 42-3), while in other instances, they fulfil a more decorative role. There is some evidence from Anglo-Saxon burials, particularly from the cemetery at Berinsfield, that brooches were obscured by clothes in the burial tableau, suggesting in those instances that they fulfilled a functional purpose in the costume, rather than being purely decorative (Williams 2006, 51-52).

'Personal accessories' and 'tools' are also similar categories, and Owen-Crocker (1986, 65-66) views objects such as knives, keys, and girdle hangers, which I have classed as personal accessories, as an integral part of costume, although, as with brooches, they may not necessarily have been visible, but rather hidden by the peplos.

The distinction between different categories of objects is thus highly subjective, although the fact that some of the patterns observed later in Chapter 3 and 4 were different between categories suggests that there perhaps was a distinction between them in the minds of the people who buried them.

In some instances, objects could also have held multiple functions. For example, while many objects placed in the category of 'weapon' most obviously have a military function, their primary function may have been different. An axe, for example, can also have a domestic use, for chopping wood, while a bow and arrows could have been tools for hunting, symbolic of food provision rather than warfare (Theuws 2009, 301-5). Theuws advocates for abandoning the classification of 'weapons', and instead referring to the specific weapon type. However, it is sometimes impossible to tell the difference between these functions, and so I have retained the classification of 'weapon'.

'Animal remains' could also have played several roles in the grave. The most obvious is as a food source, but there are some instances where the animals included in a grave were clearly not for food. For example, at the Anglo-Saxon cemetery of Oakington, a female burial was arranged so that the head of the deceased was resting on the back of a cow (Mortimer, Sayer and Wiseman 2017, 311). Such an arrangement was deliberate, and the intimacy of this posture means that the cow is unlikely to have been a food offering, although the possibility that the cow was skinned when buried changes the significance of the burial somewhat (Mui

2018, 219). Sometimes animal remains, usually dogs or horses, take the form of an entire skeleton which was buried articulated alongside a person, or sometimes in their own graves. This has quite different connotations than a single animal bone, which might have been a joint of meat. The burial of entire horse skeletons could be a sign of the status of the deceased (Oexle 1984), as they were important for hunting, warfare, and as a high-status means of transportation (Prummel 1992, 153-4). Dog burials are likely to have fulfilled a similar function. Dogs were most likely kept as hunting animals, rather than as pets as we would understand the term, and therefore were a symbol of prestige (Prummel 1992, 150). The inclusion of animal remains in this form has a quite different significance to animal remains as a source of food.

Finally, the difficulty of distinguishing 'amulets' in the archaeological record is also one which has been well discussed. Meaney's seminal study of Anglo-Saxon amulets (1981) highlights this. She defines an amulet as an object which is retained for its apotropaic, medicinal, or magical properties, following W.L. Hildburgh's definition (Meaney 1981, 3-4). Meaney suggests that before something is identified as an amulet, there should first be documentary evidence that such an item was considered to have magical properties, though contemporary written sources are often hard to come by. Secondly, the object should be associated with the body in such a way as to suggest that it was valued, and also that it played no role in the burial ritual itself (Meaney 1981, 24, 26-27). Meaney tends to identify an object which has no practical function as an amulet, but we should be wary of dismissing the 'practical' nature of an object just because we do not understand what role it may have played.

These are not the only objects found in the grave, and it is possible to argue that objects such as shrouds could also be classed as grave goods (Mui 2015, 150).

Category	**Description**	**Object Types**
Dress Accessories	Objects that were part of an everyday costume	Buckles Belt fittings Buttons Shoe fittings Cuffs Brooches
Jewellery	Items which embellish dress, but are not essential to it; there is some overlap with dress accessories.	Beads Finger rings Necklaces Earrings Arm rings

		Hairpins
Personal Accessories	Items for personal use, which could have been carried on the person	Knives Firesteels and flints Keys Spoons Bags Pins Girdle Hangers
Tools	Items which could have been carried on the person, but have a more specific purpose, suggesting that they may not have been carried as regularly as other personal accessories.	Awls Burins Hooks Spatulas Needles Quernstone Spindle Whorl Scales
Weapons	Weapons themselves, but also elements of armour; this is included here rather than in dress accessories because it is unlikely to have been a part of everyday dress. Scabbards and quivers have not been counted as separate items as they almost always accompany a blade or arrows.	Spathae Spears Saxes Arrows Shields Axes Chainmail Cheek-piece Quiver Scabbard Spurs
Cosmetic items	Items of personal grooming; they have been separated from personal accessories because of the significance of their specific function	Tweezers Combs Razors Shears Ear spoons
Vessels	Containers of all types, either for dining or for storage. Pottery shards were included when it was suggested that the shards had come from a vessel placed in the grave, rather than being residual.	Glass vessels Pottery vessels Metal vessels Spouts Plates Buckets Wooden boxes
Animal Remains	Animals buried with the deceased, or a single bone	Animal Bones (single or articulated) Egg shells

	which could indicate a food offering	
Amulets	Objects which serve an apotropaic function; from both a Christian and a non-Christian context	Animal teeth Pebbles Amulets Figurines Christian crosses 'Work-boxes'[1]
Fittings	Usually metal objects that form part of a larger, unidentified objects.	Fittings Metal rings Ornamental discs Nails Chains

Table 1: Categorisation of grave goods used throughout this thesis

2.1.4. Mapping Changing Funerary Rites

In order to investigate how grave good use changed across wide areas, I produced a series of maps showing levels of grave good use at ten-year intervals between 500 and 800. Maps were created using ArcGIS 10.5.1, and the co-ordinates for each site were obtained from the Getty Thesaurus of Geographic Names[2]. Only the maps which show important points in time are included here.

Kernel density maps were produced to show areas with contrasting levels of grave good use; all the cemeteries known to have been in use during that period were plotted as points on a map. The kernel density analysis tool then provided a means of showing where point features are concentrated in the landscape. The calculation involved spreads the value of a point, in this instance the number of objects, across a defined area, with the highest value at the centre, tapering to zero on the edge. Where these surfaces overlap, they are summed to get an overall density (see Baxter 2017 for a more in-depth explanation). In order to adjust for the size of the cemetery, which varies quite considerably, the mean number of grave goods per cemetery was used, rather than raw numbers. A search radius of 5000m was used. Kernel density plots were also created to show the base-level density of cemeteries across the regions in question as well. Because of the variation in the density of cemetery use, simple kernel density plots of numbers of grave goods become difficult to interpret, as there is an inevitable correlation with the density of the overall cemeteries. In order to compensate for this, therefore, relative

[1] 'Work-boxes' have been classed as amulets given their likely function as early Christian reliquaries, following Hills 2011a and Gibson 2015

[2] http://www.getty.edu/research/tools/vocabularies/tgn/index.html. This tool was relied upon as there were relatively few sites where exact co-ordinates were provided. For analysis of this type, and at this scale, approximate co-ordinates are sufficient.
Base-maps were provided by David Redhouse

surfaces were created, by dividing the kernel density plot for the average number of grave goods by the kernel density plot for cemeteries, using the Raster Math tool. These images were then digitally manipulated to remove the edge effect. This is a problem which occurs when dividing rasters, that the low densities around the boundaries of the data become unfeasibly high values, distorting the patterns seen. Thus far there has been little attempt to mitigate them as part of the process of raster manipulation (Baxter 2017); they were thus manually removed in order to make variation of actual funerary practices clearer.

In addition to the kernel density plots, a hot spot analysis was carried out to determine the statistical significance of any observed variations. This tool within ArcGIS calculates the Getis-Ord Gi* statistic, which indicates statistically significant areas of particularly high or low usage. It compares the value at a point to the points directly around it, and then compares them as a group to the spread of values from a sample as a whole. When the local sum is different from expected, and too large to be a result of chance, the site is marked as statistically significantly higher, and vice versa for areas of statistically significant low usage (Getis and Ord 1992). It is important to note that this comparison is only valid at that particular point in time. Therefore the appearance of a hot-spot between maps does not mean that the average grave good use in that area has increased; it could instead be that grave good use everywhere else had fallen.

Each map shows the cemeteries in use during that year, with the overall average values used to create the kernel density estimates and carry out the hot spot analysis. This means that the maps do not reflect any changes over time within the cemeteries, but only reflect the changes which occur when cemeteries go out of, or come into use. This suggests that the rates of change reflected in the maps are potentially more rapid than in reality. This will be explored further below with individual case study cemeteries. Kruskal Wallis H tests were also carried out to assess which regions could be said to have statistically significantly different patterns of grave good use, the full results of which are reported in appendix 2.1.1. The hot spot analyses only show the highest and lowest points, but the Kruskal Wallis H test will also reveal variation within those upper and lower bounds, and considers not only if there is a difference in mean, but also in the range of grave goods provided. However, the Kruskal Wallis H test does not take into account geographical clustering in the same way the hot spot analysis does, and so the two must be used in conjunction.

2.2. The Distribution of Cemeteries and Grave Good Use

2.2.1. Overall Distributions

It is evident from the distribution maps that the cemeteries which form the basis of this thesis are not evenly distributed in time and space; there are geographical and chronological biases in the sample.

At the start of the sixth century (fig, 7), the largest numbers of cemeteries were present in the Rhineland, Kent, and East Anglia, with slightly lower densities in Saxon regions, West Frankia, Bavaria, and Burgundy, and with the occasional cemetery spread across the intervening areas. It has already been remarked that the burial record in Northumbria is not especially rich in terms of numbers of burials, or numbers of grave goods within those burials (Semple *et al.* 2017, 99), potentially because the military presence along Hadrian's Wall provided a greater level of social stability, which did not require the furnished inhumation rite to develop (Collins 2017, 49), and it is certainly true that Northumbria on these maps has a lower density than the rest of Anglo-Saxon England, something which persists throughout the entire study period. This does not explain, however, the density of cemeteries which developed along the similarly militarised Rhine frontier.

This pattern of geographical distribution broadly persisted across the sixth and seventh century, with cemetery use intensifying as time went on, particularly over the Rhineland and Kent, which were by far the areas of densest cemetery use (fig. 8). Over the course of the sixth century, cemetery use in Alamannia also intensified, at a greater rate than other areas, so that there were as many cemeteries in that region as in Bavaria or Burgundy.

By the start of the eighth century, there was a considerable drop off in the density of cemeteries. There was still a concentration over the Rhineland, and a lesser one across Alamannia, Bavaria, and Burgundy, but at lower levels than previously seen (fig. 9).

This decrease in cemetery density was even more marked by the end of the eighth century. At this point in time, England had comparatively denser cemetery use, though still far lower than in earlier periods, while on the continent, there were only a few, dispersed cemeteries (fig. 10).

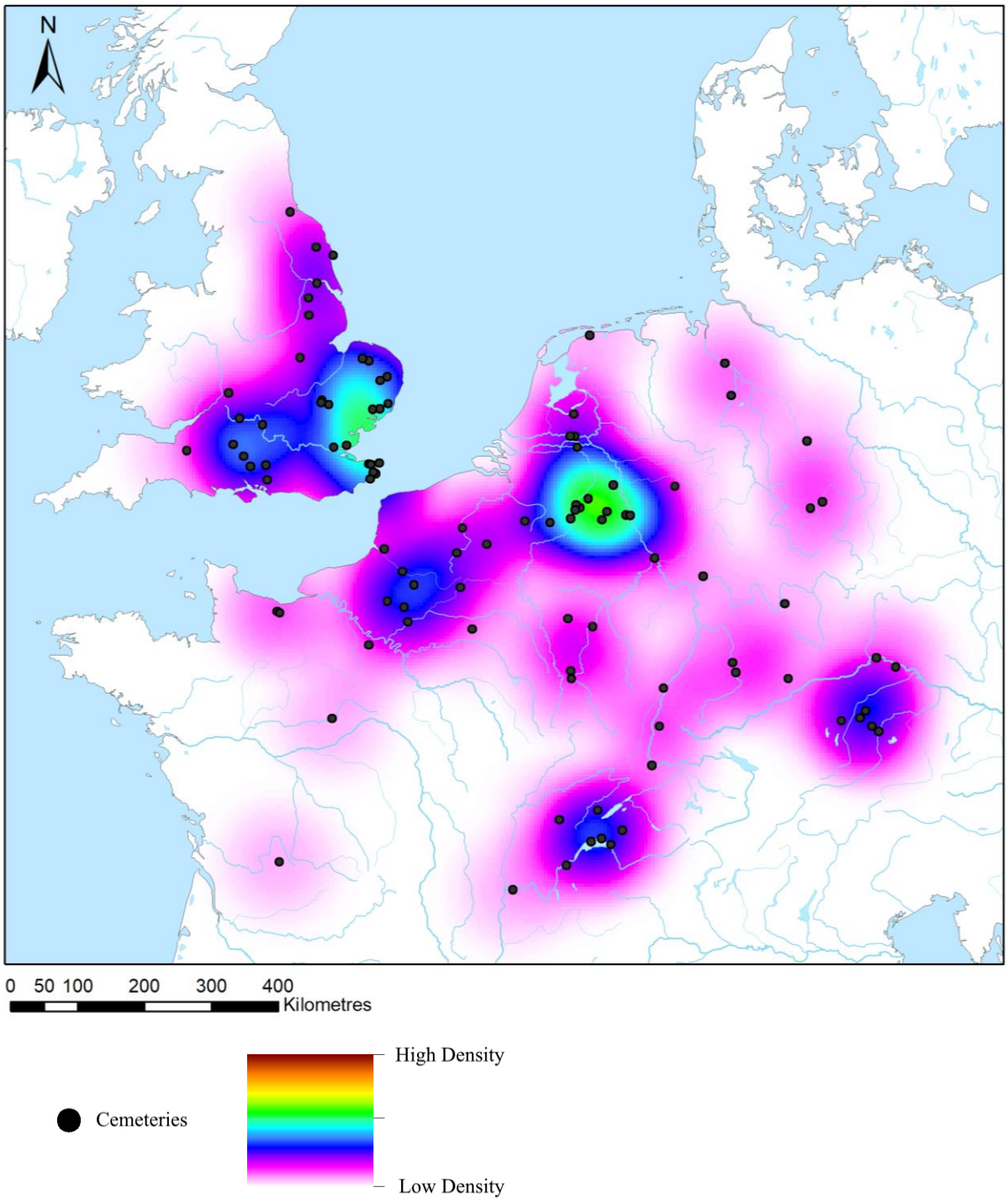


Figure 7: Kernel density map for cemeteries in 510.

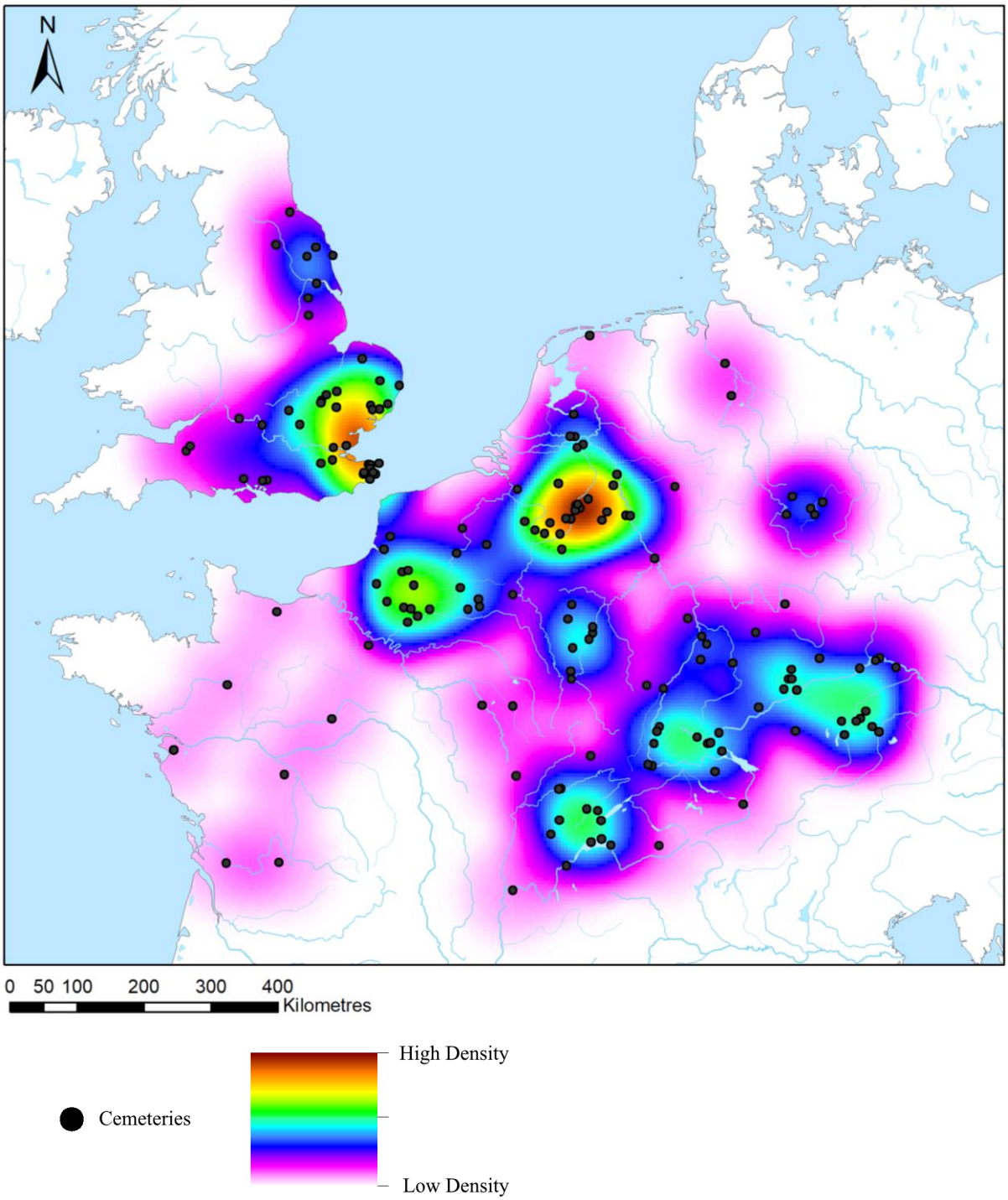


Figure 8: Kernel density map for cemeteries in 620

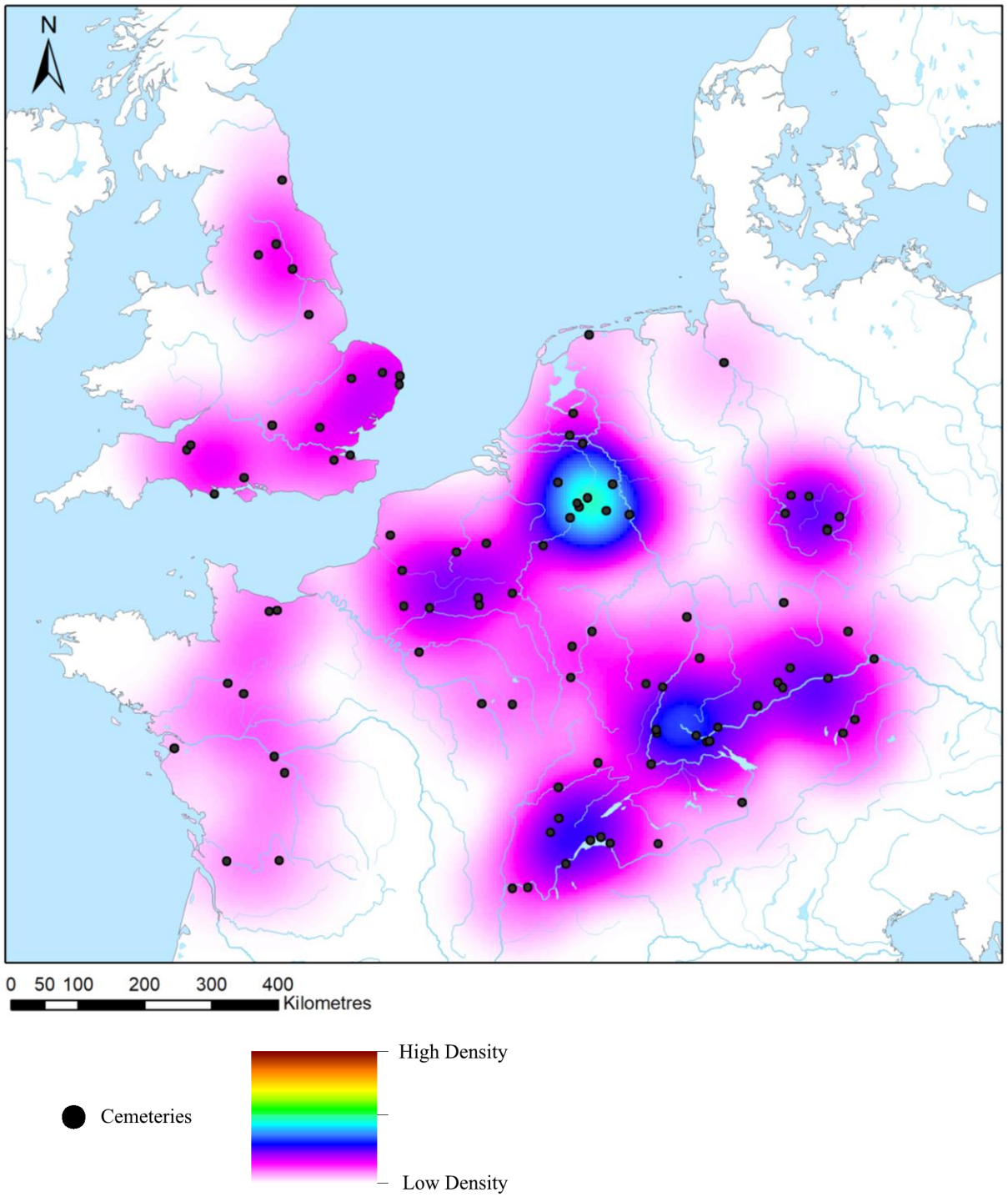


Figure 9: Kernel density map of cemeteries in 710

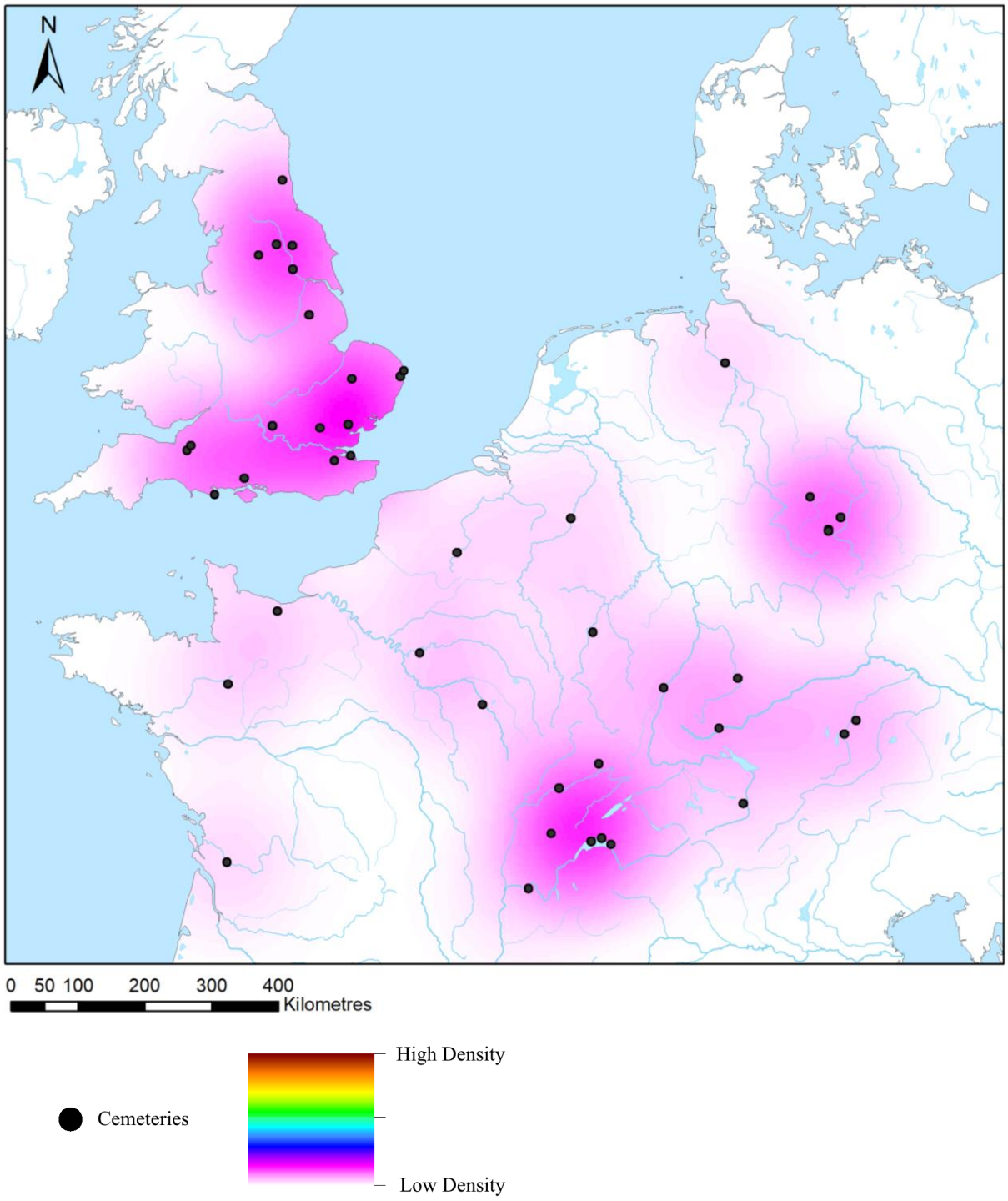


Figure 10: Kernel density map of cemeteries in 800

These distribution patterns are undoubtedly a mixture of real, geographical differences, but also excavation biases, dating biases, and sampling biases, and untangling these different factors is difficult.

The concentration of burial sites in the south and east of England and their absence in the north and west during the period of furnished inhumation is a long-observed phenomenon, and a long history of research has resulted in large numbers of well-excavated and published cemeteries from the south and east of the country. The concentration of burial in England is

one of the highest in Europe and is perhaps more of a bias of chronological research and sampling bias. The work of Hines and Bayliss means that many antiquarian excavations have been reliably dated, allowing them to be included in this study; comparative chronological work on the continent, though, has rarely included antiquarian excavations, and has usually been based on smaller regions, including a lower number of cemeteries. The lack of a chronological reassessment for many older continental excavations makes them unsuitable for inclusion. In addition, English language reports have consistently been more accessible for this research than non-English ones, resulting in a slight bias towards Anglo-Saxon cemeteries compared to continental ones.

There are very few excavated cemeteries south of the River Seine in France, and this is a well-observed excavation bias (Effros 2002a, 3). Cemeteries in the south of France tend to be more poorly furnished compared to those in the north, so this may be due to the greater attraction of furnished cemeteries over unfurnished ones to researchers. However, the main focus of this thesis is north-west Europe, and thus southern France has not been explored further in much detail. The absence of cemeteries in central France is not a result of study design, however, and reflects the level of evidence available. Few sites have been excavated in northern Germany (Siegmund 2003, 77), and there are few cemeteries along the coastline of the Low Countries due to erosion and later land reclamation.

Some of the observed differences in cemetery distribution between England and the rest of the continent may also be due to the size of the cemeteries, rather than just differences in research traditions. A population of the same size, but spread out over more cemeteries will appear as a higher concentration on the map, than an area where burials were concentrated in a few large cemeteries. Although there were plenty of small cemeteries present on the continent, they could also reach far greater sizes than they did in England. Fig. 11 shows how, with the exception of Kent, the English cemeteries are some of the smallest in Europe. Many continental cemeteries included over 500 individuals, and the largest, Altenerding in Bavaria contained 1341 burials. The largest Anglo-Saxon cemetery, in contrast was just over 400 people, and very few others approached this size. Greater densities in England, therefore, may reflect more of a difference in the way cemetery populations were organised, rather than an actual greater number of cemeteries.

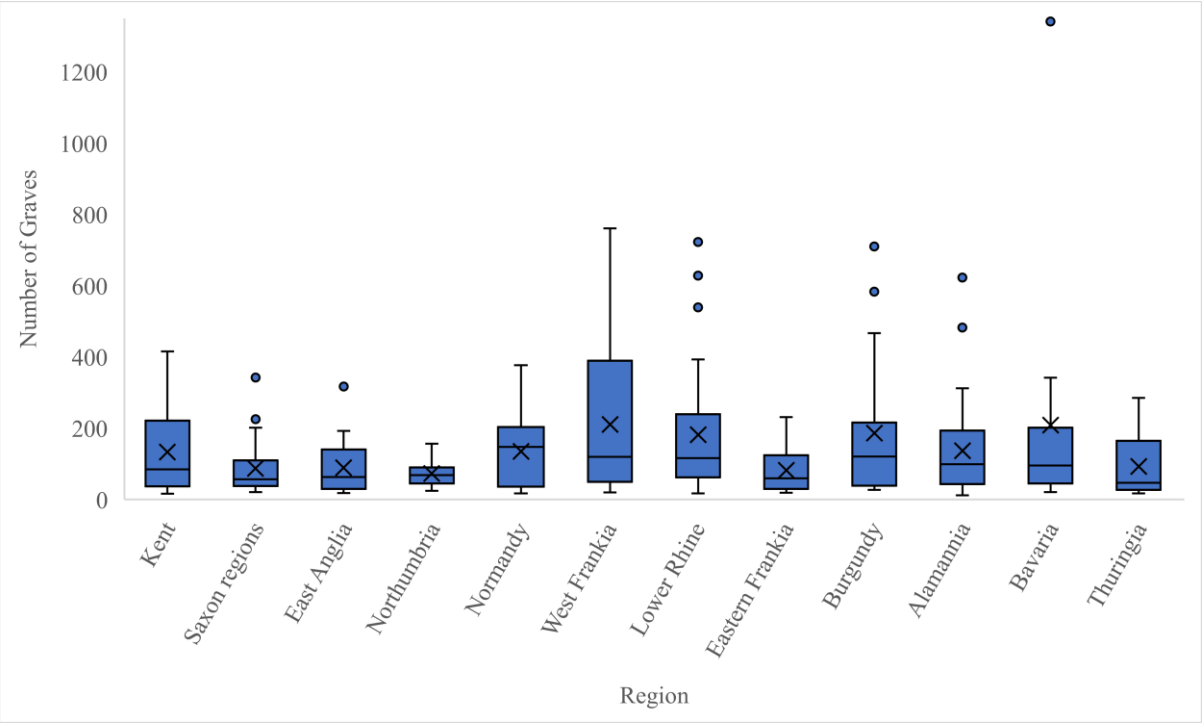


Figure 11: Box-plots showing the number of graves per cemetery by region

The decrease in cemetery density across the late seventh and eighth century is in some parts due to the difficulty of dating cemeteries following the loss of grave goods used in typo-chronological dating. This may be another contributing factor for why the density of cemeteries in England is slightly higher than on the rest of the continent in the eighth century, because radiocarbon dating has been more commonly used in Britain than elsewhere, and has been more routinely included as part of the initial analysis of cemeteries. Nevertheless, there are still far fewer post-seventh-century cemeteries in England than might be expected, and in other regions, such as the Netherlands, there is a genuine lack of post-seventh-century cemeteries which cannot be explained by excavation or dating biases alone (Theuws 2018, 27). The possibility of a decrease in population should not be dismissed, nor should the possibility that burial in this period was more diverse than previously realised, and included archaeologically invisible methods of disposing of the dead.

2.2.2. Grave Good Use

At the start of the sixth century, grave good use was highest in England, particularly East Anglia, and Alamannia, while statistically significantly low-levels of grave good use were found in West Frankia, and Burgundy (fig. 12, fig. 13). That grave good use in Burgundy was significantly lower was confirmed by the Kruskal Wallis H test, which highlighted this region as being statistically significantly different from every other region of Europe. It also confirmed that Alamannia, East Anglia, and Bavaria had the same, highest levels of grave good use, and were statistically indistinguishable from each other, while the cemeteries in

Kent, Saxon regions and Bavaria also formed a group where levels of furnishing were statistically indistinguishable. There were thus three broadly different groups of practice; high grave good use in southern Germany and England, particularly East Anglia, minimal grave good use across Burgundy and southern Gaul, and medium levels elsewhere across Frankia.

The density of cemeteries with high levels of grave good use which was observed at the start of the sixth century broadly persisted throughout the entire study period. Fig. 14 shows a more uniform distribution of grave goods in the seventh century than in the sixth, but there were still plenty of statistically significant differences between regions. England was the earliest region where a decrease in grave good use could be seen. The process of abandonment appears to have occurred in two stages; first a decrease in cemeteries with high levels of grave good use between the years 550 and 600, followed by a period of relatively steady use until 650, where there is another gradual decline before a sudden and almost complete abandonment in 685. This was a pattern of change which has been observed in other studies. Variability in body position in the grave increased from the mid sixth century until the start of the seventh century, when it became more standardised again, before going through another period of variability in the mid seventh century (Mui 2018, 139-142). Mui does not use Hines and Bayliss' revised chronology, and so the changes may not exactly match up, but the similar pattern of change is nonetheless interesting.

The Saxon region became a significant cold-spot at the start of the seventh century, and its cemeteries had lower levels of furnishing than any other area of Anglo-Saxon England. The Kruskal Wallis H test confirms this; while Saxon regions had statistically similar levels of furnishing to East Anglia, it was significantly lower than that of Kent or Northumbria. Despite Semple's *et al.* (2017) observation that Northumbrian cemeteries are more poorly furnished than the those in the rest of England, that is not reflected in the cemeteries selected for analysis here. While the richest graves in Northumbrian cemeteries do not contain as many objects as the richest in other areas, the Kruskal Wallis H test does not indicate Northumbria as being significantly different from East Anglia or Kent in its level of furnishing.

Levels of grave good use on the continent were more constant over time than they were in Anglo-Saxon England. Many of the distribution patterns observed throughout the sixth century were also constant for the seventh century; Burgundy was again an area of much lower grave good use than other regions as was West Frankia, a difference which is statistically significant. The region which showed the greatest change, statistically speaking was Bavaria. Bavarian cemeteries which went out of use during the seventh century had lower average numbers of grave goods than those which went out of use during the sixth century,

and were statistically identical to those of Anglo-Saxon England and the Rhineland, rather than the rest of southern Germany.

The most obvious changes in continental practice revealed in the spatial analysis can be seen from around 670, when the mostly richly furnished cemeteries began to be abandoned, resulting in a decrease in grave good density. This was a process which began slowly, but which accelerated moving into the eighth century. The earliest continental changes were seen in southern Germany. Burgundy, already one of the areas of lowest grave good deposition, saw a further decrease in the cemeteries which went out of use during the eighth century, so that the range of grave goods deposited is clustered around zero, with only a few outliers.

The furnished cemeteries of south Germany were some of the earliest continental ones to be abandoned, so that by 750, the Lower Rhine region was the sole remaining area of high grave good use, along with a few isolated cemeteries further south, and the cemeteries at Bremen Mahndorf and Oosterbeintum, in the north. This impression that grave good deposition continued for longest in the Lower Rhine region, however, may have more to do with the limitations of this methodology than anything else. The majority of cemeteries in the Lower Rhine region were constantly in use for a very long period of time, often throughout the entire period of furnished burial (see chapter 3). This would make it appear as if there was very little change over time, when in reality, practices could be changing within those cemeteries, but not be evident using this methodology. Whether or not this was the case will be investigated further in Chapter 3 and 4.

By the end of the eighth century, there was very little evidence of any level of grave good use in Europe. While there appears to have been a band of slightly higher grave good density in the centre of the study area, this was primarily caused by the cemeteries of Hordain, Metzervisse, and the Carolingian cemetery at St Servatius, all of which are unusually long-lived cemeteries which were also in use during the period of furnished burial, but most likely transitioned to primarily unfurnished burial later in their use. There were some cemeteries outside of this region which are statistically significant hot-spots, but given how low grave good use was at this point, any deviation from the pattern of unfurnished use is likely to result in a statistically significant difference. That all of the English cemeteries form a statistically significant cold-spot, though, suggests that the abandonment of furnished burial in England was more complete than it was elsewhere.

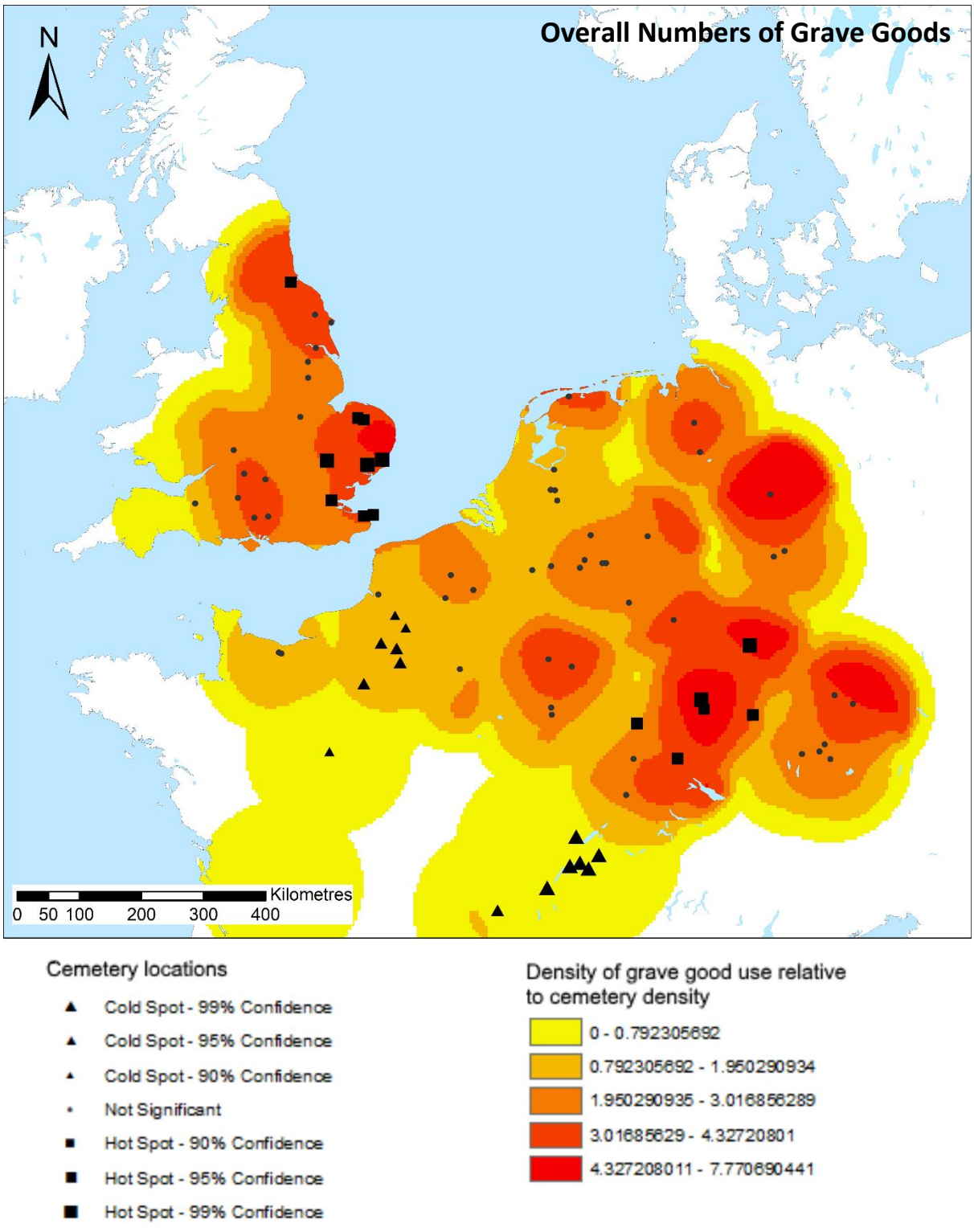


Figure 12: Relative kernel density map of grave good use in 500, showing high concentrations over Alamannia and eastern England, and low concentrations over west Frankia and Burgundy

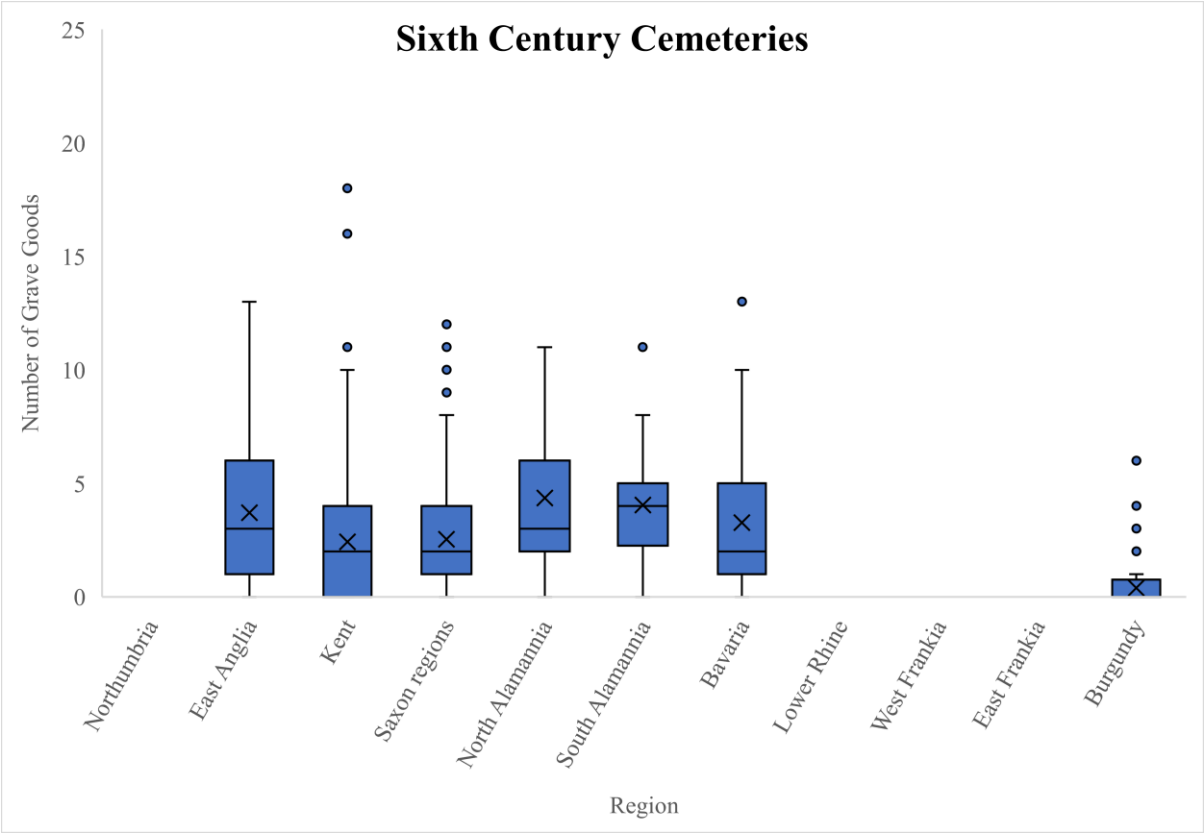


Figure 13: Box-plots for overall numbers of grave good numbers in cemeteries which went out of use during the sixth century. All of the cemeteries in the regions of Northumbria, the Lower Rhine, West Frankia, and Grand Est were in use until the seventh century, and so are not shown here

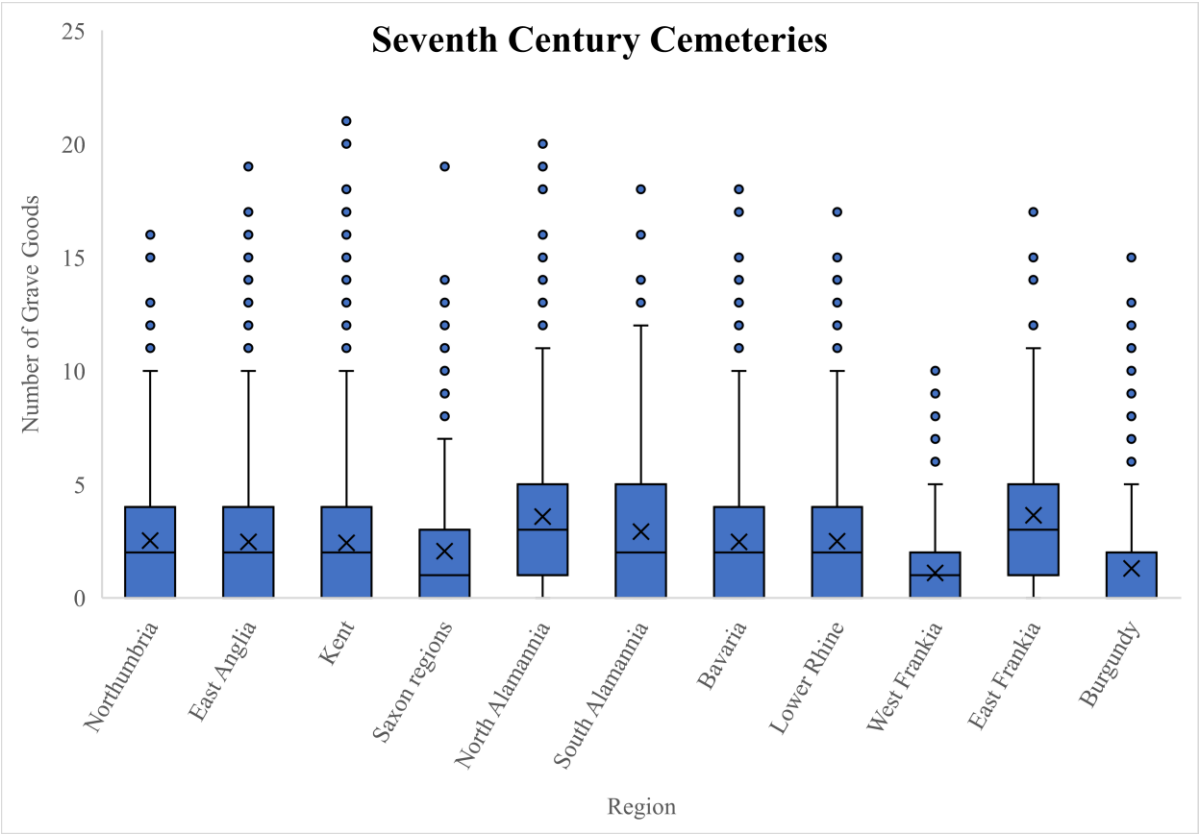
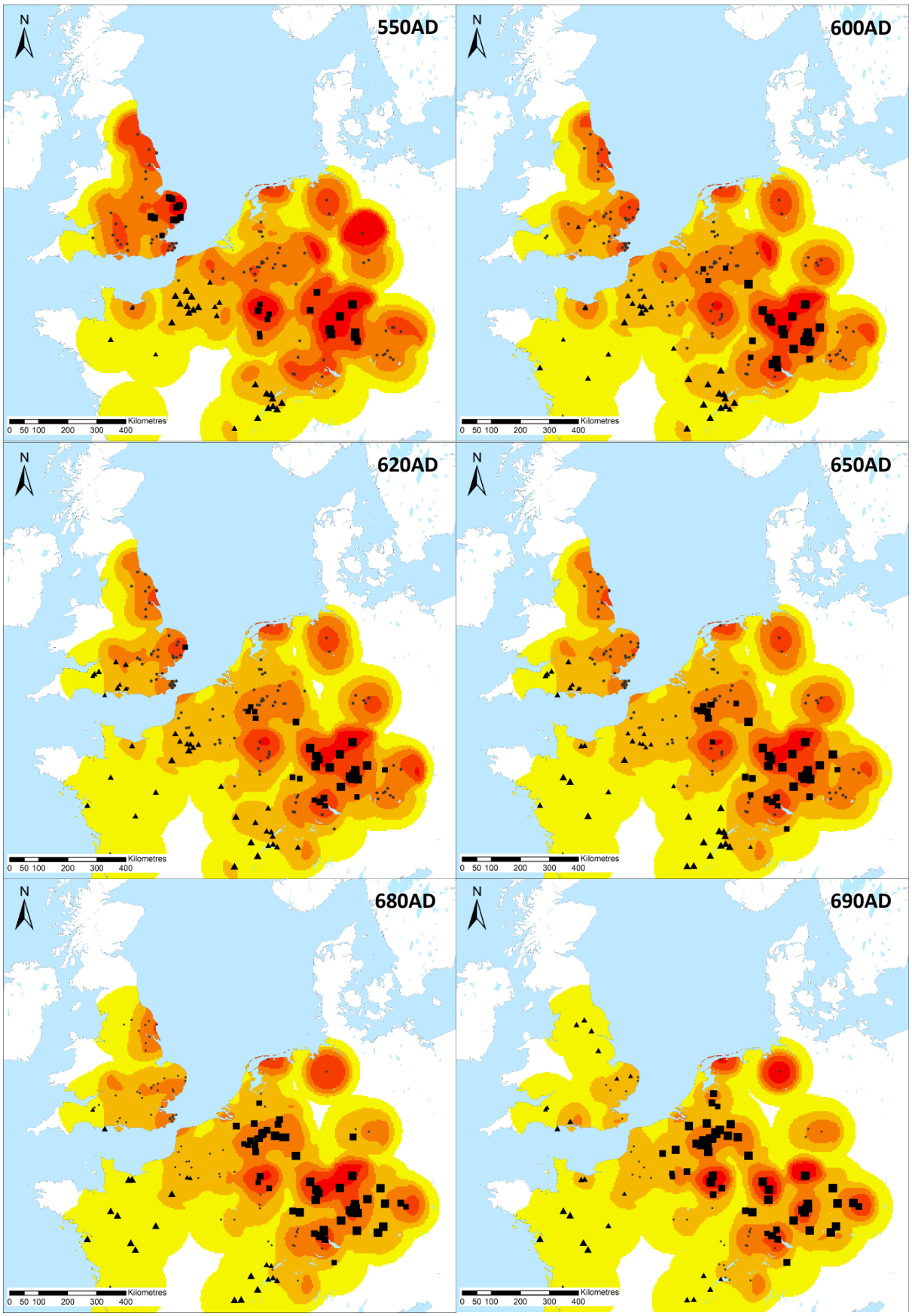


Figure 14: Box-plots for overall numbers of grave good numbers in cemeteries which went out of use during the seventh century


N
550AD
Kilometres
0 50 100 200 300 400
N
600AD
Kilometres
0 50 100 200 300 400
N
620AD
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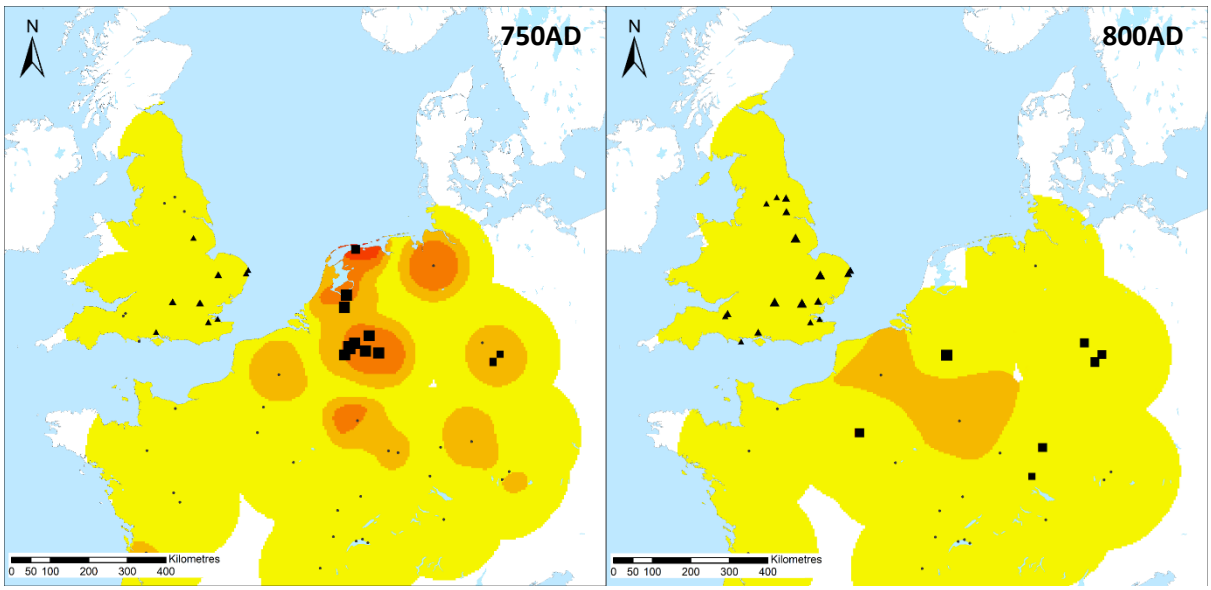

Figure 15: Relative kernel density maps of grave good use across the sixth to eighth centuries, showing contractions in areas of high grave good use in England between 550 and 600, and 650 and 690, as well as rapid abandonment of continental furnished cemeteries after 680. See Figure 12 for legend.

There is no evidence from this analysis that the practice of unfurnished burial spread in a linear fashion from one area to another. Instead it seems to have increased in popularity as a practice whilst furnished burial retreated into several core areas, in some cases individual cemeteries, where the custom lingered unusually late. Interestingly, there was a noticeable decrease in the density of grave good use on the continent at the same time as the most dramatic abandonment of Anglo-Saxon furnished cemeteries occurred, between the years of 680 and 690. While it was nowhere near as drastic on the continent as it was in England, this was nevertheless a more sudden abandonment of cemeteries than anything seen prior to that point. From 690 onwards, the abandonment of furnished cemeteries on the continent occurred at a much more rapid rate, vanishing from southern Germany first, and then the Lower Rhine region by the mid eighth century.

As mentioned above, the dates for abandonment indicated by these maps are likely to be later than the changes occurred in reality. The maps show only when cemeteries were abandoned, and it is likely that there was decreasing grave good use within these larger cemeteries before their final point of abandonment, which is something that will be investigated further later.

2.2.3. Unfurnished Burial

As might be expected, the distribution of unfurnished burial was roughly the inverse of the distribution of furnished burial. In the sixth century, unfurnished burial was found most commonly in Burgundy, and in the isolated cemeteries across western France, and there are particular low points of unfurnished burial in Bavaria, and across much of Anglo-Saxon

England (fig. 16). The Kruskal Wallis H test confirms that East Anglia had a significantly low number of unfurnished burials, as did the cemeteries of Alamannia and Bavaria.

The changes in numbers of unfurnished burial in England were very similar to the pattern of change for the overall numbers: numbers of unfurnished burials rose steadily between 550 and 600, then were relatively static until 650, when they began to rise again, followed by an almost complete adoption of the unfurnished burial rite by 690. The pattern of change on the continent was a little different from that of overall numbers, however, and there was a clearer change earlier on. The areas of low levels of unfurnished burial can be seen to be contracting from 550 onwards, particularly in Bavaria, and in West Frankia they began to rise. This was a gradual change at first though, and the most significant changes on the continent still appeared from 690 onwards, again with the levels increasing first in southern Germany, and finally becoming the dominant form of burial in the Lower Rhine region after 750. By the end of the eighth century, it was by far the most dominant form of burial everywhere, though there were statistically significant hot spots over England, and a cold spot over Thuringia. This suggests, as mentioned earlier, that the adoption of unfurnished burial was more complete in England, and perhaps less complete in Thuringia.

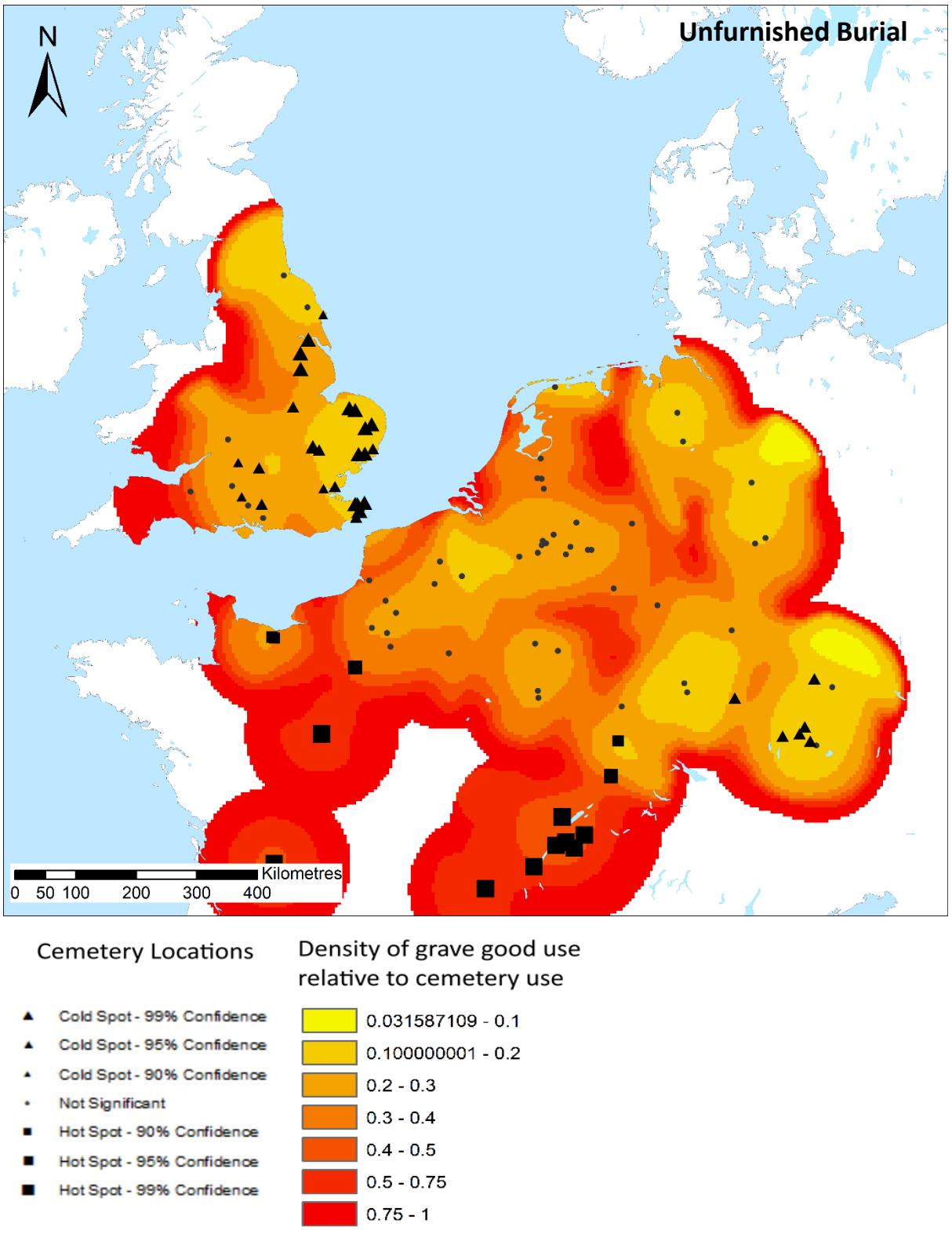

Figure 16: Relative kernel density map of unfurnished burial in 510, showing low concentrations of unfurnished burial over Bavaria and eastern England, and high concentrations in Burgundy.

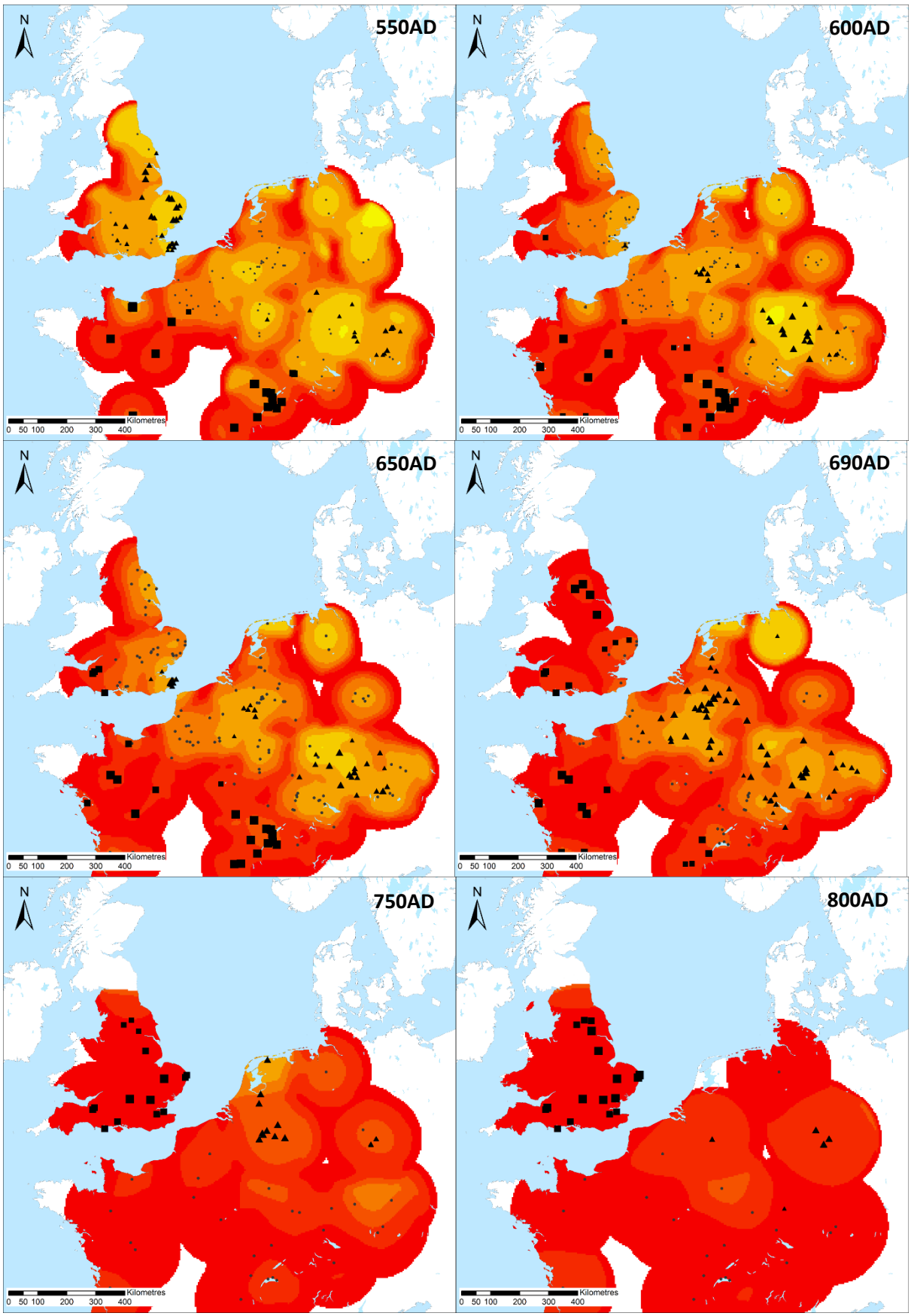

Figure 17: Relative kernel density maps of unfurnished burial in the sixth to eighth centuries, showing the expansion of areas of unfurnished burial in England between 500 and 600, and between 650 and 690, and the rapid spread of unfurnished burial on the continent from the late seventh century onwards. See Figure 16 for legend.

2.2.4. Categories of Grave Goods

2.2.4.1. Dress Accessories, Jewellery, Personal Accessories, and Fittings

Many of the different categories of grave goods, especially the more common ones, had a similar distribution to the overall numbers of grave goods. The initial distributions of dress accessories, jewellery, personal accessories, and fittings all matched this pattern, and changed in similar ways to the overall patterns already observed. At the start of the sixth century, the areas of highest use were found in England, particularly East Anglia, and Alamannia, while the areas of lowest grave good use included West Frankia, Burgundy, and the isolated cemeteries found in the west of France, with the Lower Rhine region also having slightly lower numbers than elsewhere (fig. 18, fig. 20, fig. 22, fig. 25). The Kruskall Wallis H tests for these four categories reveal that there was indeed no statistically significant difference across Bavaria, South Alamannia and North Alamannia, in most instances, although the provision of personal accessories was lower in Bavaria than in south Alamannia.

The ways in which dress accessories changed over time mirrored the overall patterns of grave goods almost exactly; with two separate periods of decline in England between 550 and 600, and 650 and 685, with their use in a few East Anglian cemeteries persisting until 710 (fig. 19). The initial decline in England primarily affected the south, while Northumbria's use of dress accessories remained relatively static over the entire period. On the continent, there was little sign of any change prior to the acceleration of abandonment of grave goods after 680.

The initial distribution of jewellery on the continent at the start of the sixth century was more concentrated towards the east of the study area than the overall numbers were, but a hot-spot developed over Alamannia from around 530 onwards, making the distribution appear more like the overall pattern. Jewellery again followed a two-stage decrease in England, but saw very little change on the continent before the late seventh century (fig. 21).

Personal accessories were one of the most commonly used types of grave goods, especially in England, and did not go through that two-stage decrease which characterised the other types of grave goods. Instead, they remained in use at very high levels for most of the period in which furnished cemeteries were in use, only beginning to decrease from 650 onwards. Personal accessory use on the continent saw only a slight, gradual decrease prior to the late seventh century, and followed the same pattern of vanishing from southern Germany around 730, and the Lower Rhine region around 750. Interestingly, though, there were Thuringian cemeteries which still contained personal accessories at the end of the eighth century (fig. 23). The fact that Anglo-Saxon cemeteries did not appear as cold-spots for personal accessories in

the late eighth century, the way other categories were, suggests that the use of personal accessories was not completely abandoned, though they were not used in high enough densities to be visible on the kernel density plots.

Finally, the use of fittings in Anglo-Saxon graves decreased steadily from about 550 onwards, rather than decreasing in two stages as other categories did. On the continent, we can see a gradual decline in the use of fittings, particularly in the south, from around 650 onwards, but again accelerating after 690. They remained relatively commonly found in graves across the continent until the end of the eighth century, in contrast to their complete abandonment in England (fig. 25). Unfortunately, as it is difficult to identify the exact role by played the fittings in most instances, it is hard to say what role they played in the funeral. They do, however, demonstrate that the practice of depositing objects in graves continues in at least some form on the continent, though not in England.

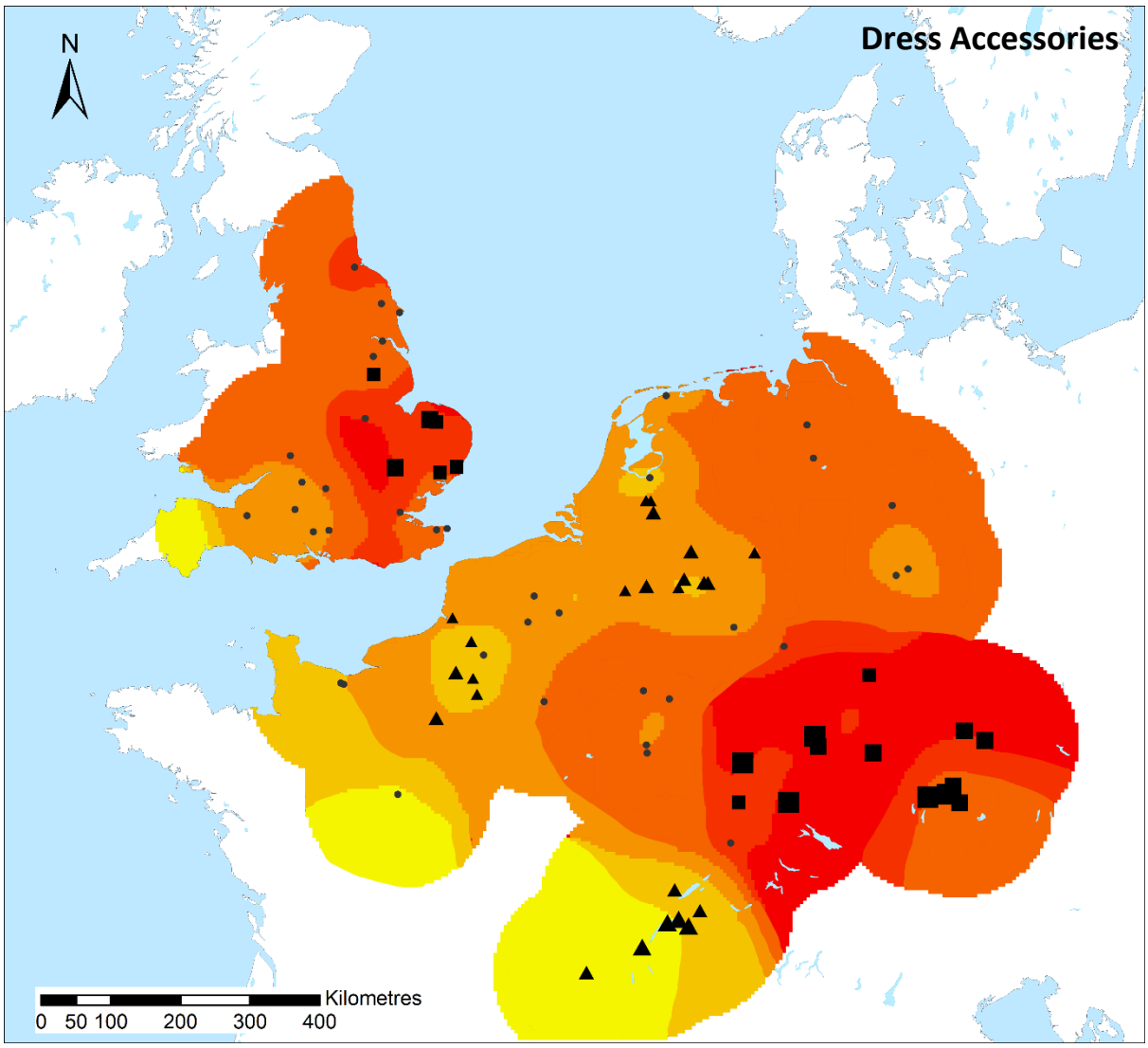

Figure 18: Relative kernel density map of dress accessory use in 500, showing a similar distribution to overall numbers.

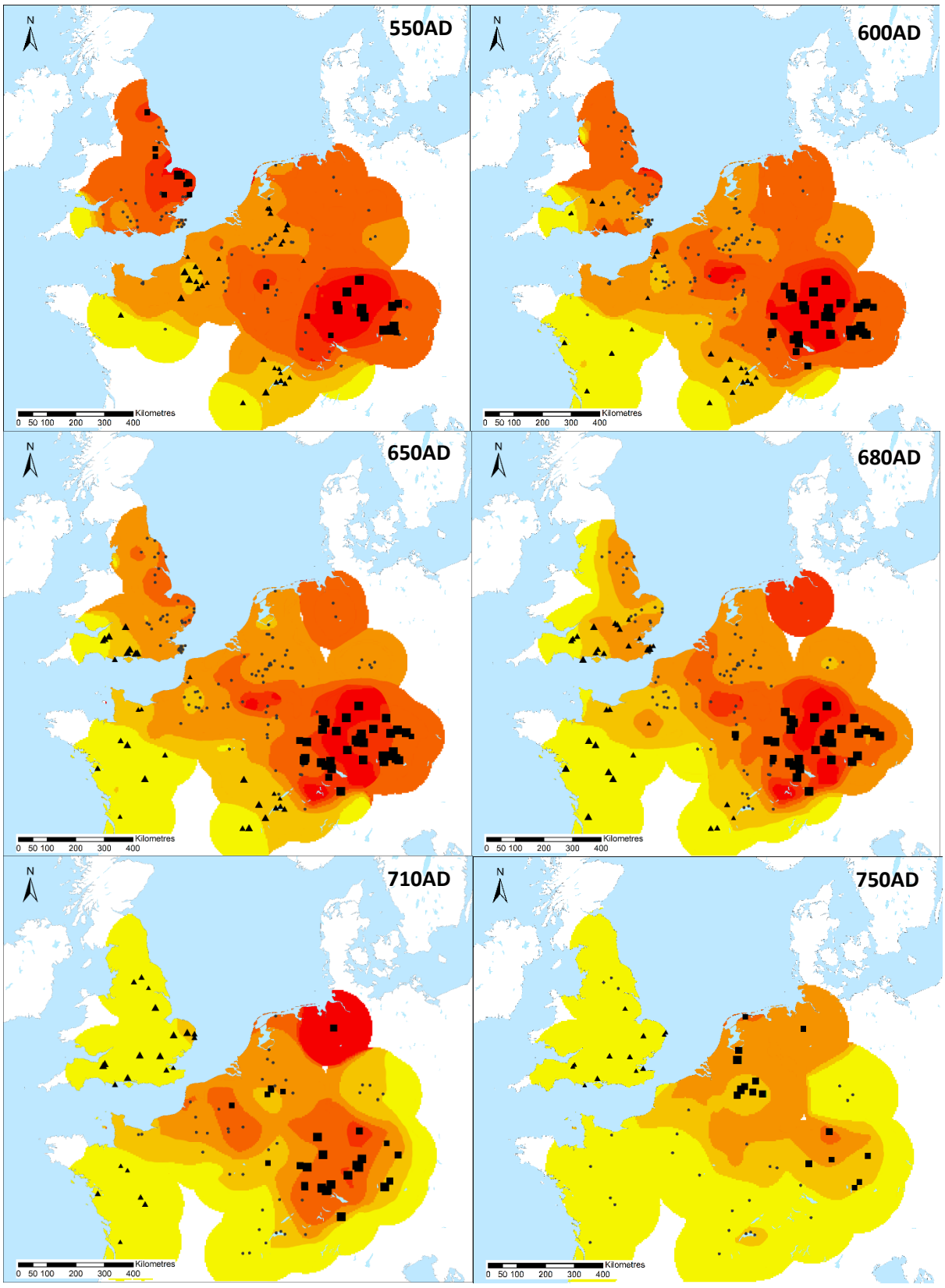

Figure 19: Relative kernel density maps of dress accessory use across the sixth to eighth centuries, showing similar patterns of change to overall numbers. See Figure 18 for legend.

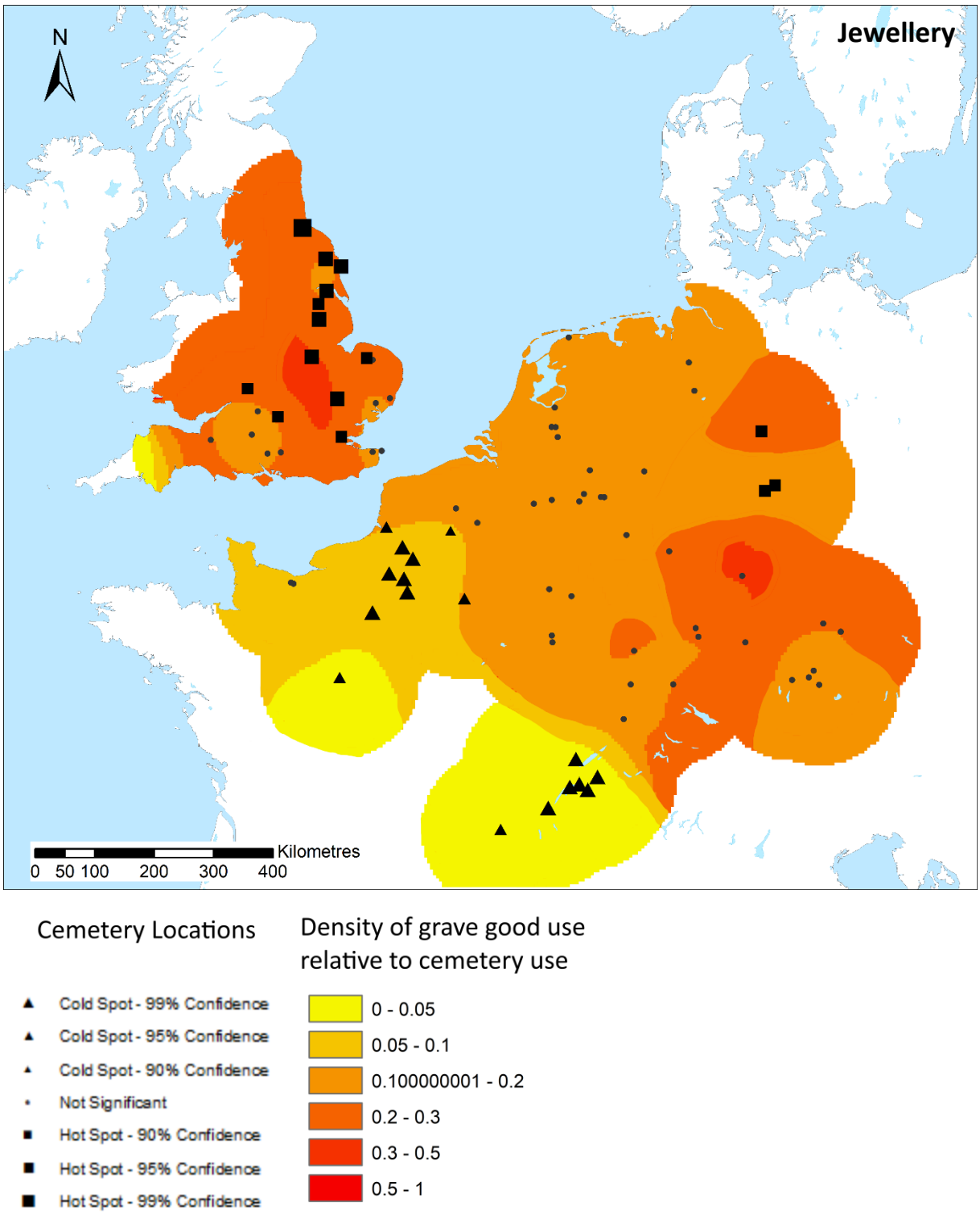

Figure 20: Relative kernel density map of jewellery use in 500, showing a similar distribution to overall numbers, though with higher concentrations in England.

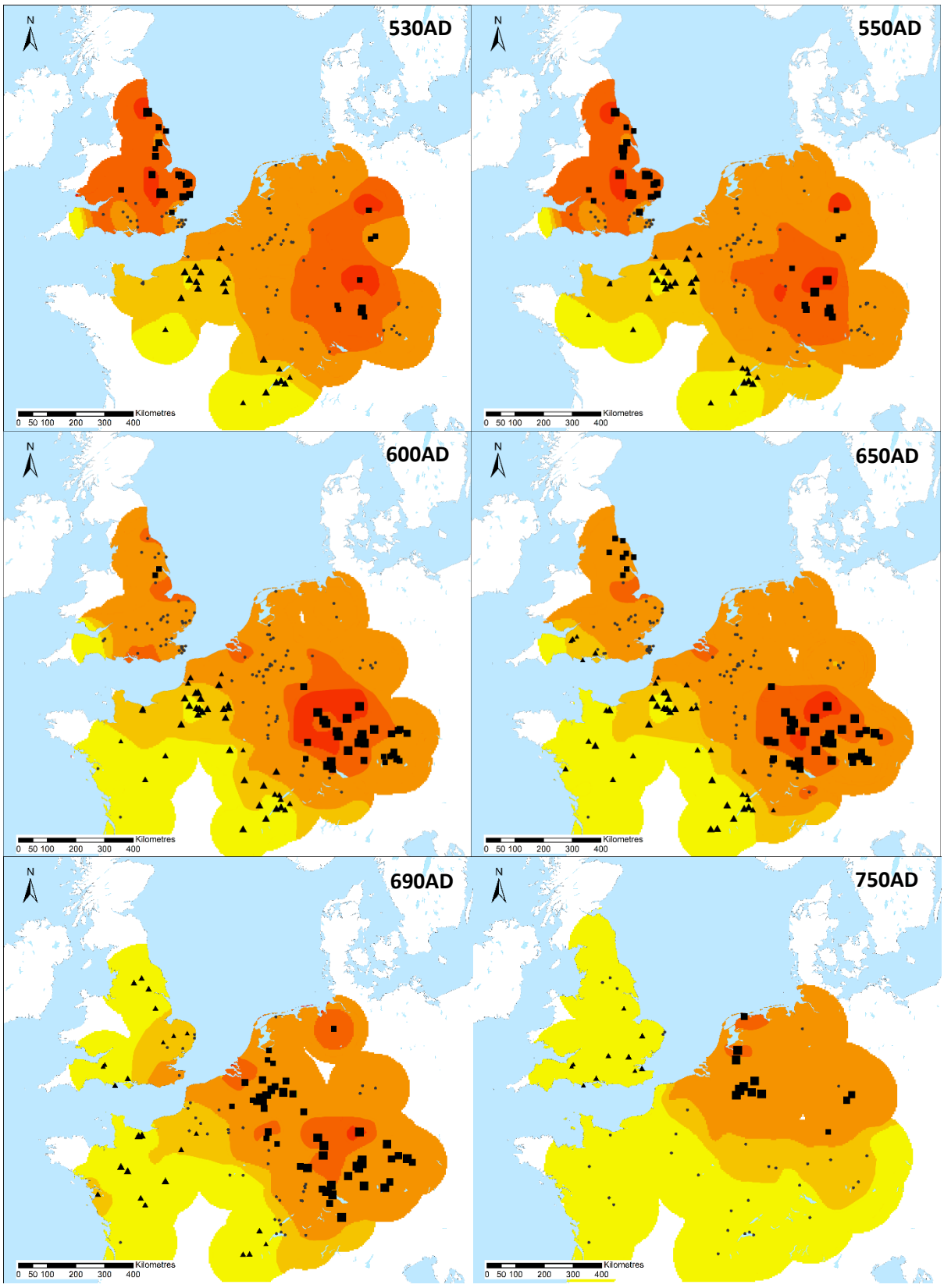

Figure 21: Relative kernel density maps of jewellery use across the sixth to eighth centuries, showing the development of a hot-spot over Alamannia in 530, then similar patterns of change to overall numbers. See Figure 20 for legend

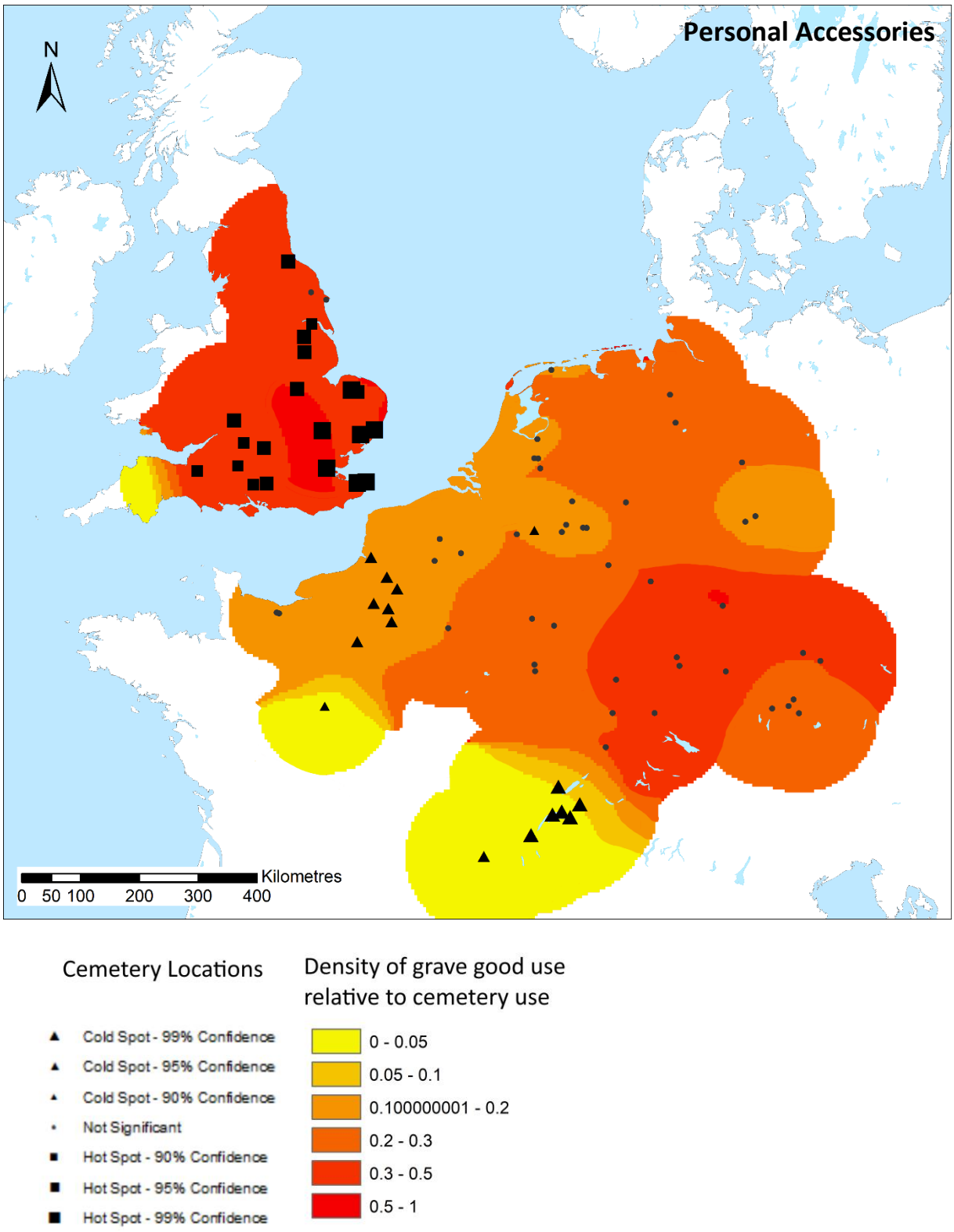

Figure 22: Relative kernel density map of personal accessory use in 500, showing a similar distribution to overall numbers

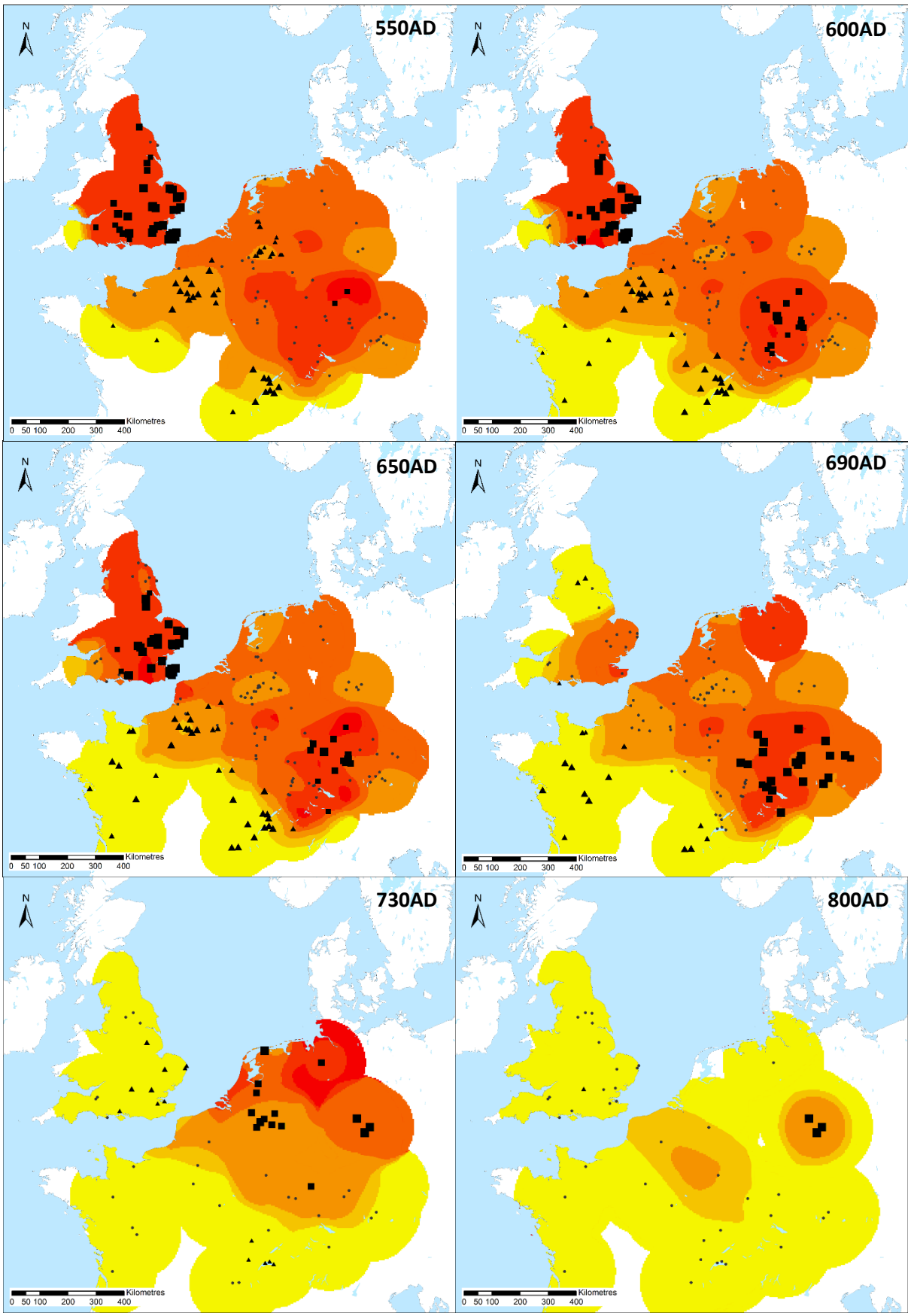

Figure 23: Relative kernel density maps of personal accessory deposition across the sixth to eighth centuries, showing the continued use of personal accessories until the late seventh century. See Figure 22 for legend

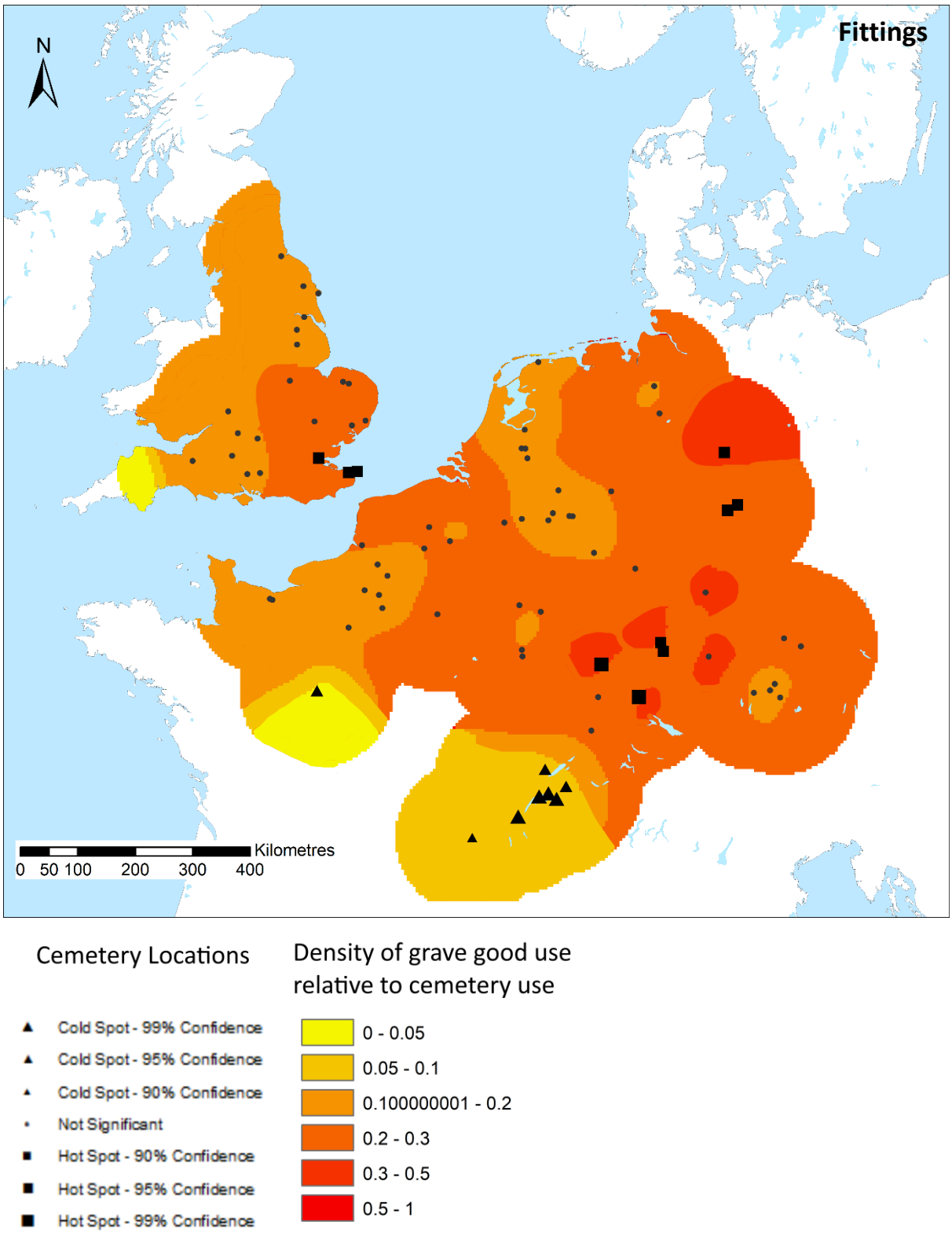

Figure 24: Relative kernel density map of fittings use in 500, showing a similar distribution to overall numbers, if slightly denser.

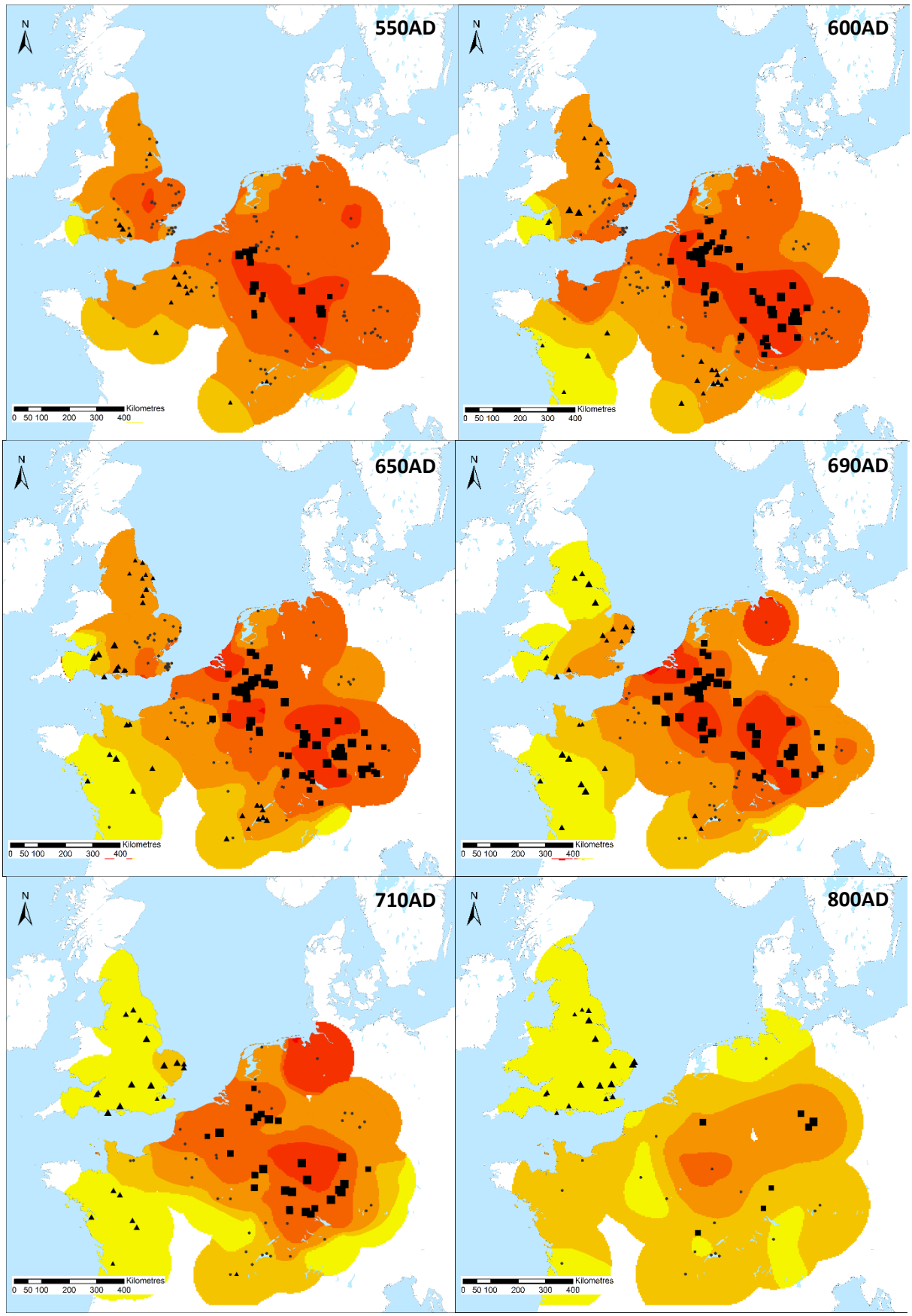

Figure 25: Relative kernel density maps of fittings use across the sixth to eighth centuries, showing similar patterns of change to overall numbers, but the continued presence of fittings late in the eighth century. See Figure 24 for legend

2.2.4.2. Vessels

Vessels were a relatively common type of object, but their use in graves followed a quite different distribution to the norm. While they were found in relatively low quantities in Burgundy, in common with other distributions, there were high concentrations across West Frankia and the Lower Rhine, regions that were cold spots, or at least less densely concentrated for all other categories of grave goods. Bavaria was also a cold-spot for vessel use at the start of the sixth century, and there is a very clear division in England, between the west of the country, which was a cold spot for vessel use, and East Anglia, where it was slightly higher, although still not the hot-spot seen for many other categories (fig. 26).

The ways that vessel use changed over time was also slightly different. Although in England, the usual two stages of contraction could be seen, the initial contraction was much more extreme, so that by 600, the majority of England was a cold-spot for vessel use, with the exception of Northumbria. Despite the initial differences in distribution, continental vessel use saw a slight, gradual decrease throughout the late sixth and early seventh century, but saw little major change before the pivotal point of 680 and 690 (fig. 27).

In order to understand why vessels follow such a different distribution to other objects, we must think about the role which they may have played in the funeral. This is debated; Young argued that the vessel was more important than its contents. Effros (2002b), on the other hand argued that the contents of the vessel were the primary grave deposition, with the vessel itself being of secondary importance. Resolving this question is somewhat hampered by the fact that only occasionally is it obvious what the vessel may have contained. For example, a glass fusiform flask from the cemetery of Saint Seurin in Bordeaux had wine residues inside it (Coupry 1971, 333). Some have also been found which held animal remains; there is a copper-alloy vessel from the cemetery of King's Garden Hostel in Cambridge which contained three eel skeletons (Dodwell *et al.* 2004, 98). Most, however, have no such clear evidence; vessels are rarely examined for organic residues which may tell us what they contained, and the vast majority are washed, making retrospective study impossible (Effros 2002b, 85). Effros suggests that the inclusion of vessels which may have been used for food is evidence of funerary feasting at the graveside, and the inclusion of the deceased in that feasting (Effros 2002b, 80). The funerary feast was an important part of the funerary rite in Late Antique Gaul, well attested in historical sources. While it was not always viewed positively by the clerics who recorded it, it was more the raucous behaviour that feasting led to which was objected to, rather than the act of feasting at the grave itself (Effros 2002b, 75). Effros also suggests that the deposition of whole or partial animal remains, even when there

are no signs of butchery present, may be further evidence of the participation of the dead in funerary feasts (Effros 2002b, 87). The distribution of animal remains is almost the reverse of that of vessels (see 2.2.4.5. below). Animal remains can of course have other significances in the grave rite, other than food, as discussed above. It can be difficult to distinguish between animal offerings as grave goods, and animal offerings as part of a funerary feast, but when animal remains are only partial, the latter is perhaps more likely. Effros has also suggested that scattered animal bones found in the fill of graves could be the remains of the feast which was deposited along with grave fill at the culmination of the feast, rather than just residual material (Effros 2002b, 89), although those remains are rarely examined in enough detail to provide evidence for this. The differences in distribution of animal remains and vessels could therefore suggest a difference in the way the dead were included in funerary feasts, or in the form communal eating took. This could therefore indicate cultural differences surrounding the funeral.

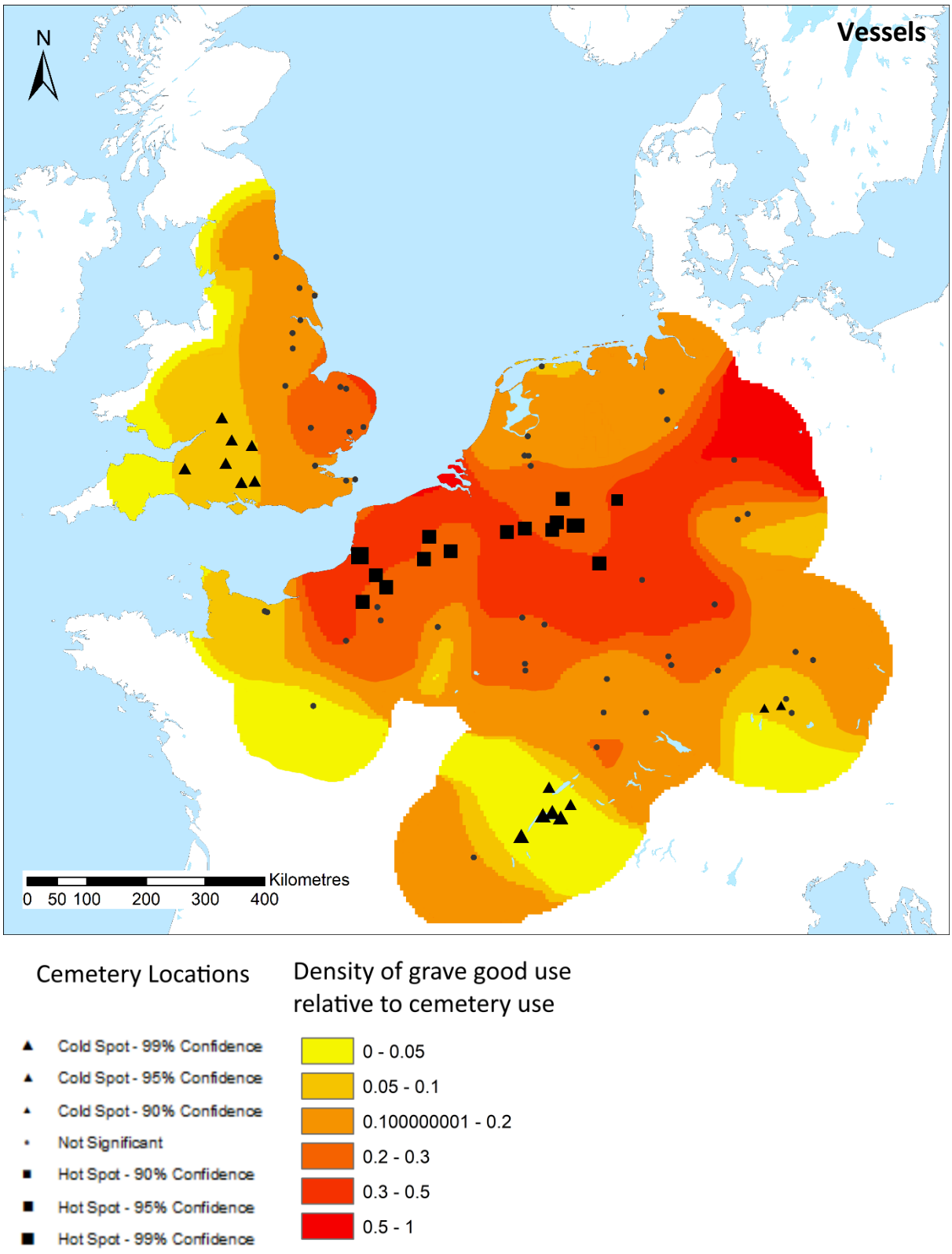

Figure 26: Relative kernel density map of vessel use in 500, showing concentrations of high vessel use across Western Frankia and the Lower Rhine.

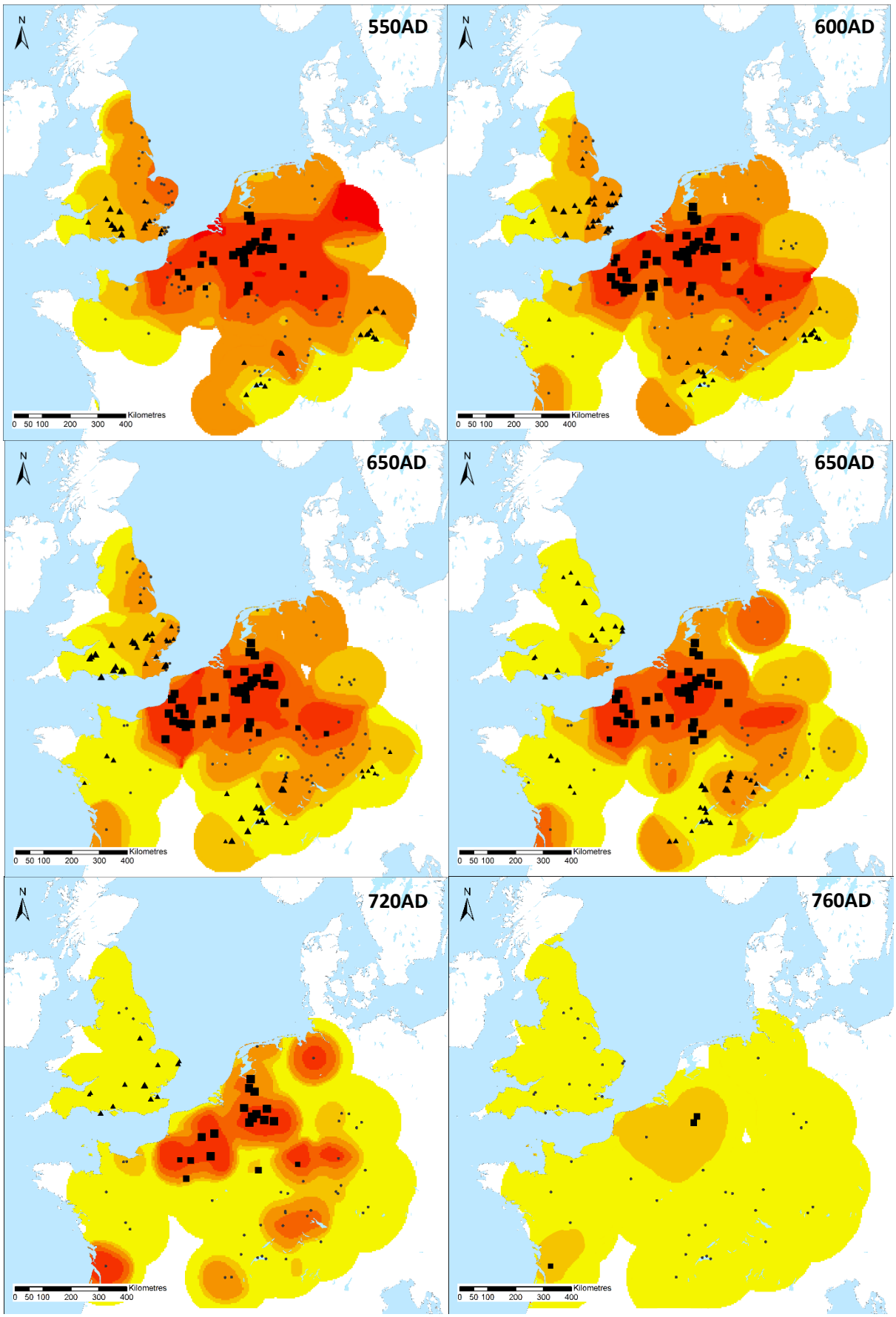

Figure 27: Relative kernel density maps of vessel use across the sixth to eighth centuries, showing early contraction of vessel use in England and Alamannia, and continued use in Western Frankia and the Lower Rhine into the eighth century. See Figure 26 for legend.

2.2.4.3. Weapons

The distribution of weapon burials is also interesting. There were very few areas with notably high concentrations of weapon burials. Burgundy and West Frankia had the lowest concentrations of weapons, in keeping with other artefact distributions, while most of the continent had slightly higher, but homogenous, levels of weapon use. In England, there was a clear boundary between Northumbria with relatively low levels of weapon deposition, and southern England, with a particularly high concentration in East Anglia (fig. 29). Weapon burials tended to be located on the periphery of fifth- to sixth-century political entities, and their absence in Picardy and western Belgium has also been noted (Brather 2005, 165). This may not be the entire picture, however. When the distribution of weapons is analysed at a smaller geographical scale, their distribution becomes considerably less even. Theuws (2009) has demonstrated distinct clustering of weapon burials on a smaller geographical scale, between the Rhine and the Seine (fig. 28). One of the functions of kernel density estimates is to smooth over small-scale local variations to allow larger regional trends to emerge, but this does sometimes mean that important small-scale local variations are masked, and this will be investigated further in Chapter 3. These localised clusters of weapon burials could be interpreted as a demonstration of land ownership in those regions where more traditional, villa-based forms of land ownership had broken down (Theuws 2009, 311).

Weapon use in England again shrank in two discrete phases, between 550 and 600, and 650 and 680. Weapon deposition on the continent, however, became more common in the mid sixth century, with larger concentrations appearing in Alamannia and a smaller one in the Lower Rhine from 550 onwards. At the same time, the boundaries of the area of higher weapon use remained relatively static, until 690, when they begin to contract sharply. As with other types of grave goods, the Lower Rhine was the last region to use weapons, where they vanish after 750 (fig. 30).

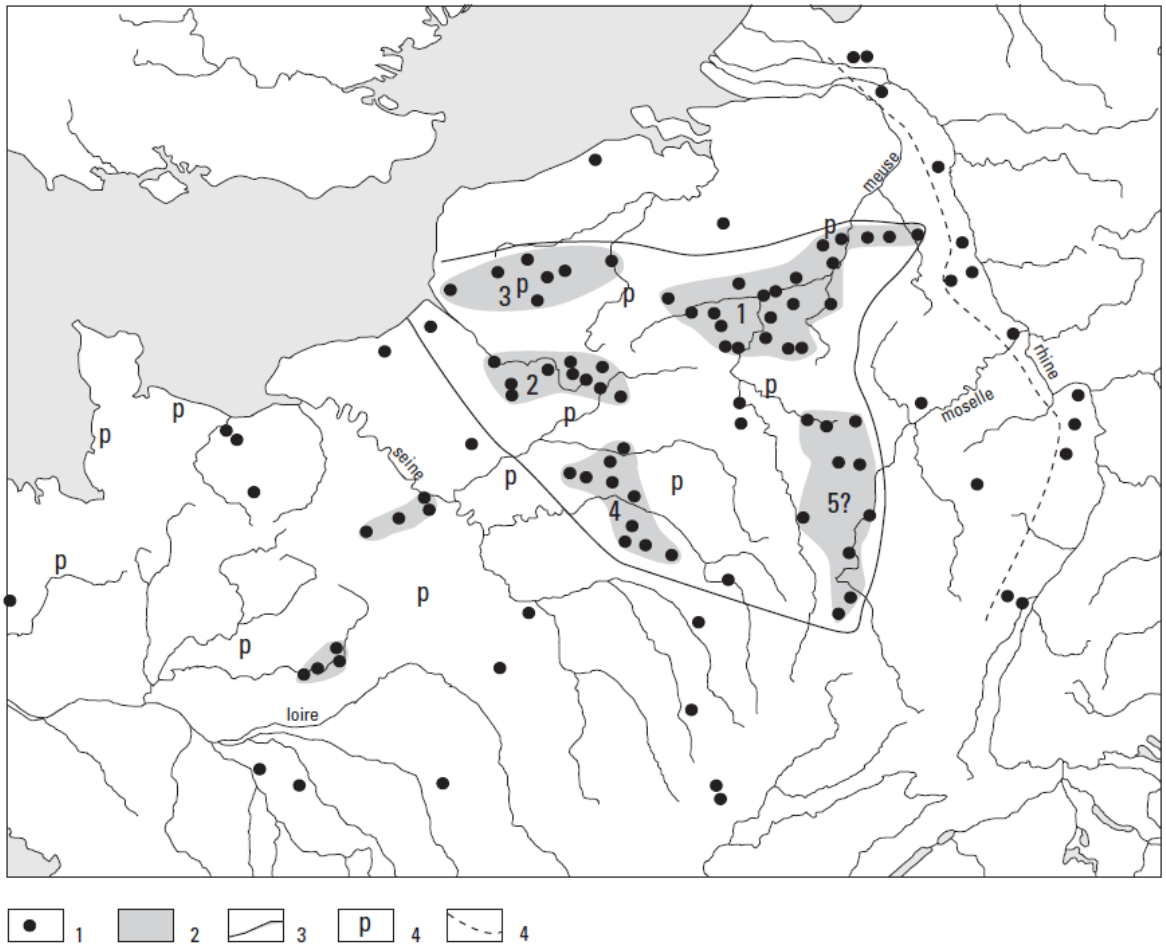

Fig. 8. The distribution of 'weapon' graves in northern Gaul. After Böhme 1974 and 1996.
1. Location with one or more 'weapon' graves; 2. areas with a concentration of 'weapon' graves; 3. line encircling areas with concentration of weapon graves; 4. seat of a *praefectus laetorum*.

Figure 28: Weapon burials in northern Gaul in the fourth century (Theuws 2009, 310). CC BY-NC 3.0

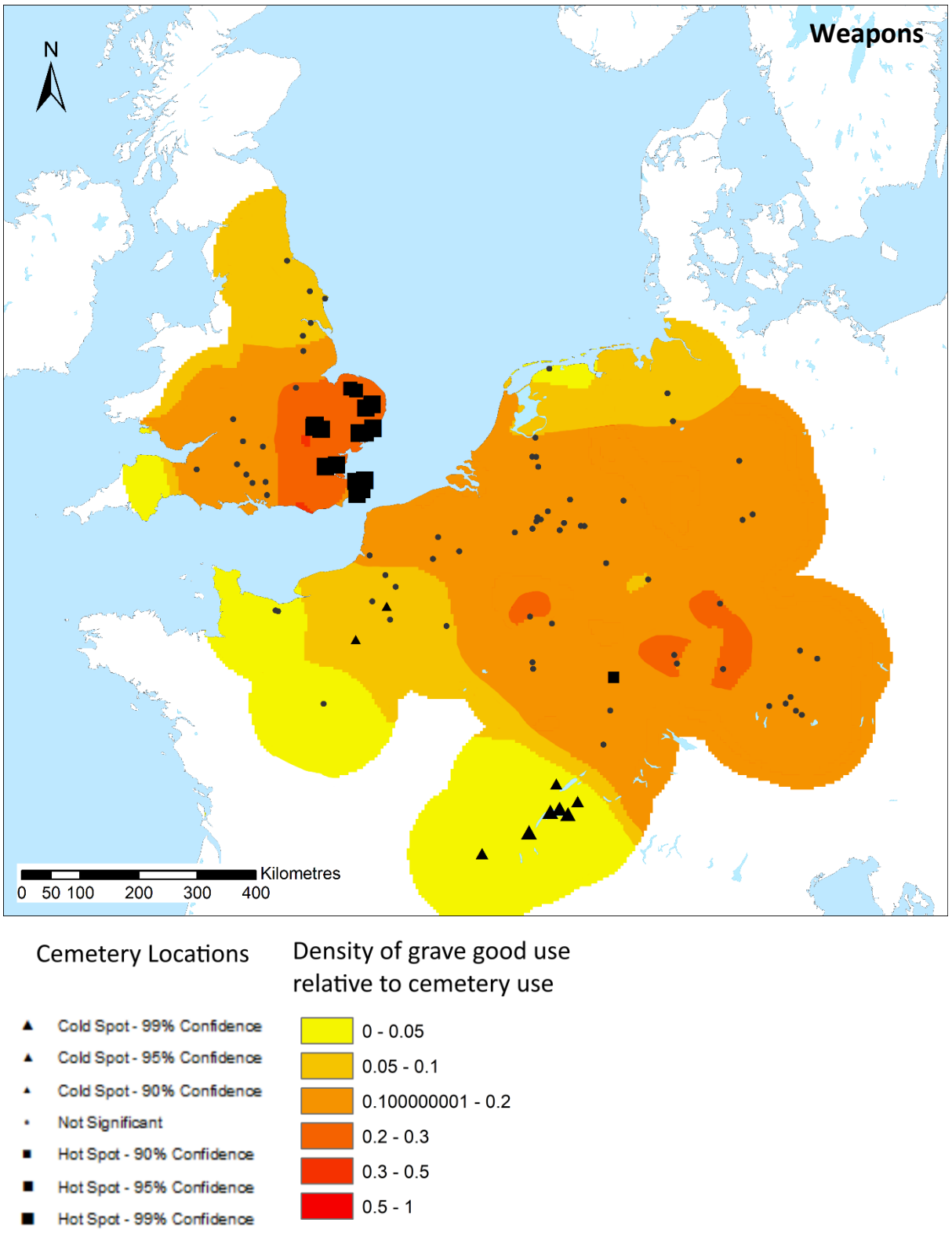

Figure 29: Relative kernel density map of weapon use in 510, showing a concentration of weapon use over eastern England, but homogeneous levels across most of the continent.

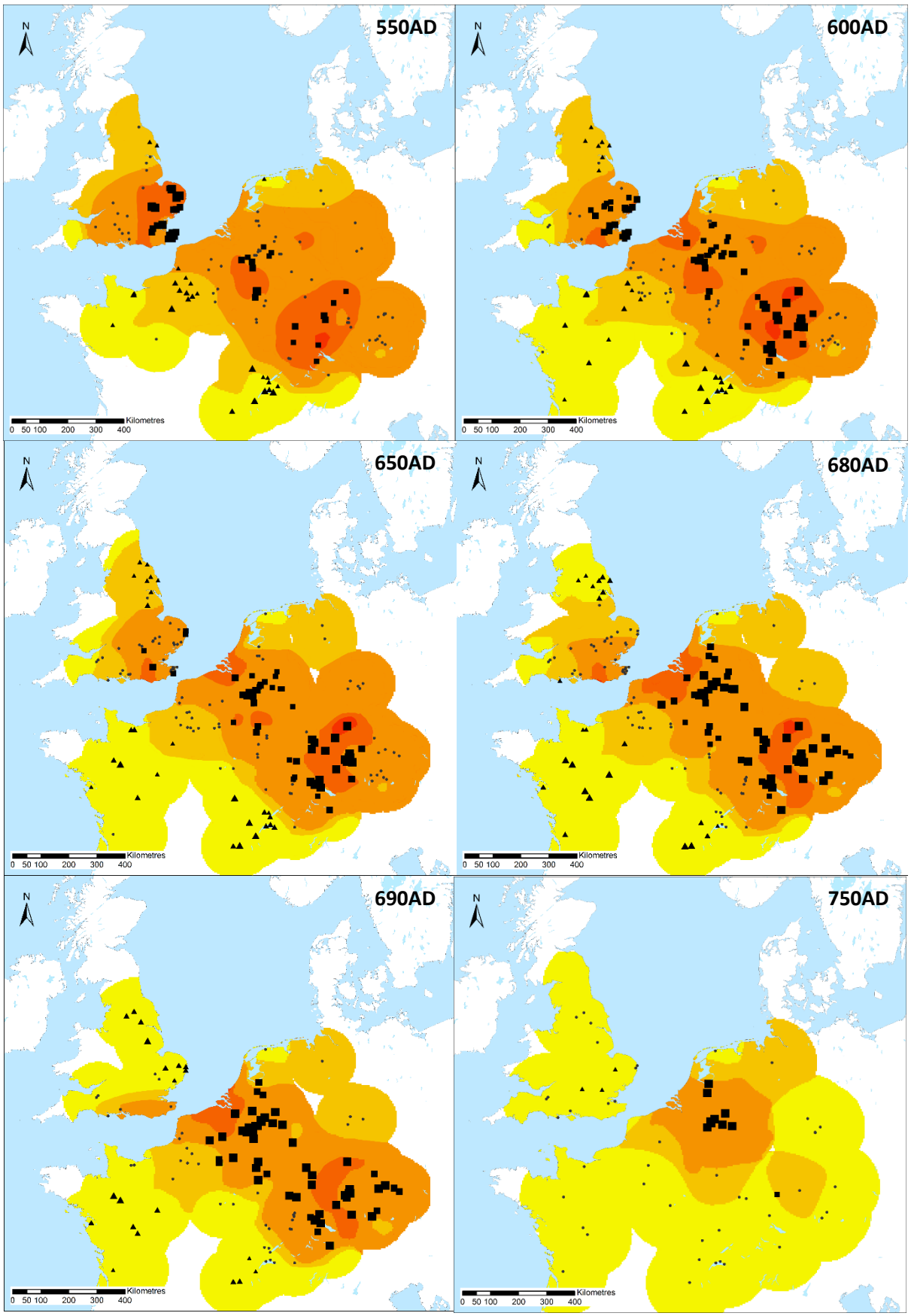

Figure 30: Relative kernel density maps of weapon use across the sixth to eighth centuries, showing the development of concentrations of weapon use over Alamannia by 500, and then similar patterns of change to overall numbers. See Figure 29 for legend.

2.2.4.4. Cosmetics and Amulets

Rarer categories of objects also varied from the pattern of overall grave good distribution. Cosmetics and amulets both had similar distributions; they were found less commonly in England and were concentrated more in the Saxon areas to the west than in East Anglia and Northumbria, the reverse of the most other categories of object (fig. 31, fig. 33). The Kruskal Wallis H test shows that the use of cosmetics in East Anglia and Kent was statistically identical to their limited provision in Burgundy. Amulets, meanwhile, were so rarely deposited that the Kruskal Wallis H test could identify no statistically significant differences between regions. This contrasts with the results of the hot spot analysis, which did indicate some statistically significant hot and cold spots.

Cosmetic use in England decreased steadily from around 580 onwards (fig. 32). Interestingly, the decline in cosmetic use on the continent could be seen beginning at around the same time; this is unusual as mostly, continental grave goods saw only very minor decreases prior to that pivotal point of 680-690.

Amulets were one of the few categories of object to appear to have been more commonly deposited in graves over the course of the sixth and seventh centuries. In England, a steady increase can be seen from 540 onwards, and they became even more concentrated in their use during the seventh century, though they too completely vanished after 680. Continental amulet use was also at its highest during the seventh century, and unlike other categories of grave goods, did not have a late-seventh, early eighth concentration over the Lower Rhine region, but were found latest in in Alamannian and Bavarian graves, where there was a still a slight concentration as late as 800 (fig. 34). A part of the reason for this difference in changes over time could be the growing popularity of Christian amulets during the seventh century; items such as work-boxes in Anglo-Saxon England (Hills 2011b) and *Goldblattkreuze* in Alamannia (Bierbrauer 2003). This does not necessarily signify an increase in the use of amulets in burial; Christian symbolism is more recognisable than non-Christian symbols might be. Amulets are notoriously difficult to identify, especially in a non-Christian context. It may be that rather than seeing a real increase in apotropaic behaviour during the seventh century, it just becomes more obvious because of our familiarity with Christian imagery.

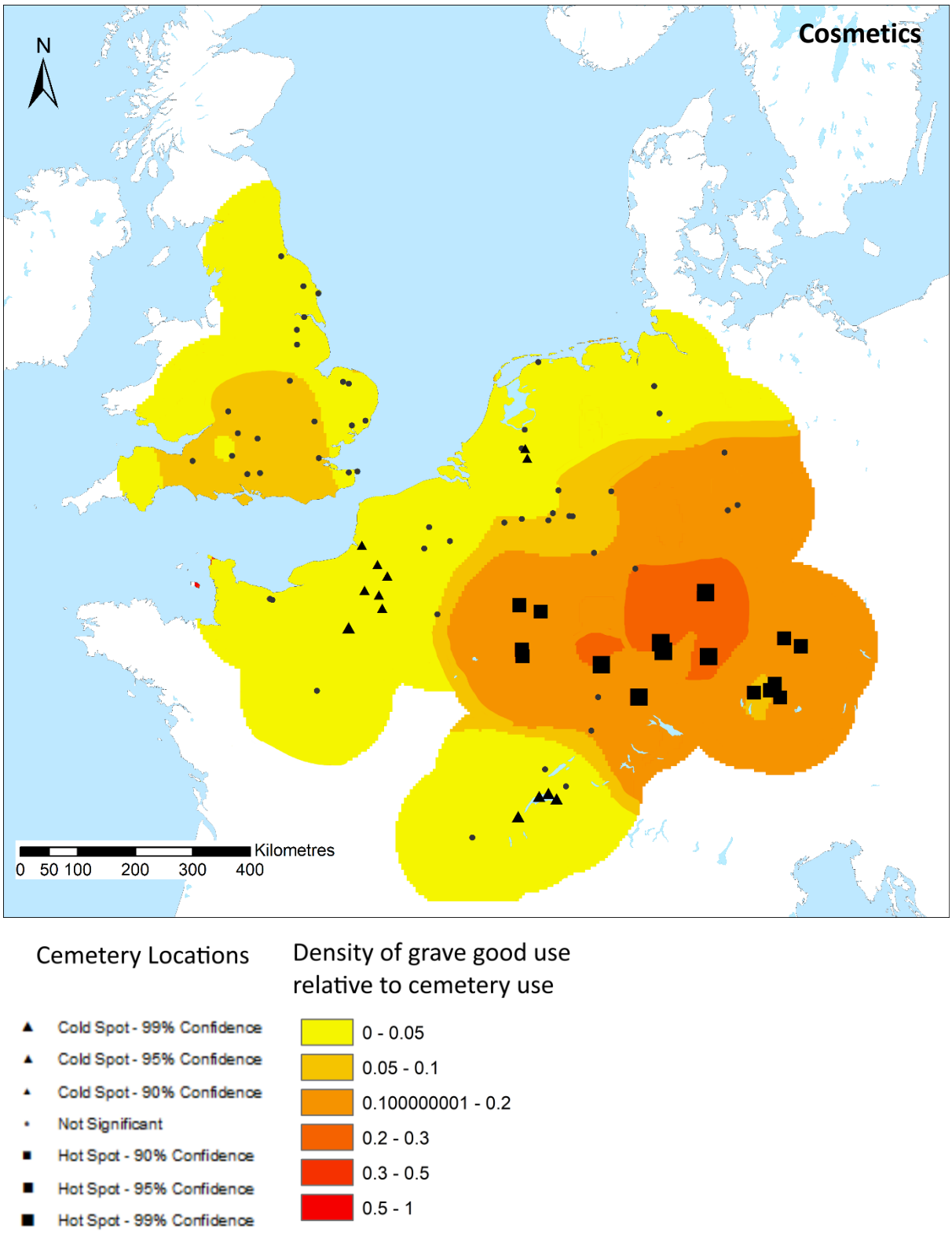

Figure 31: Relative kernel density map of cosmetic use in 500, showing high concentrations of cosmetics use over Alamannia, but much lower levels elsewhere.

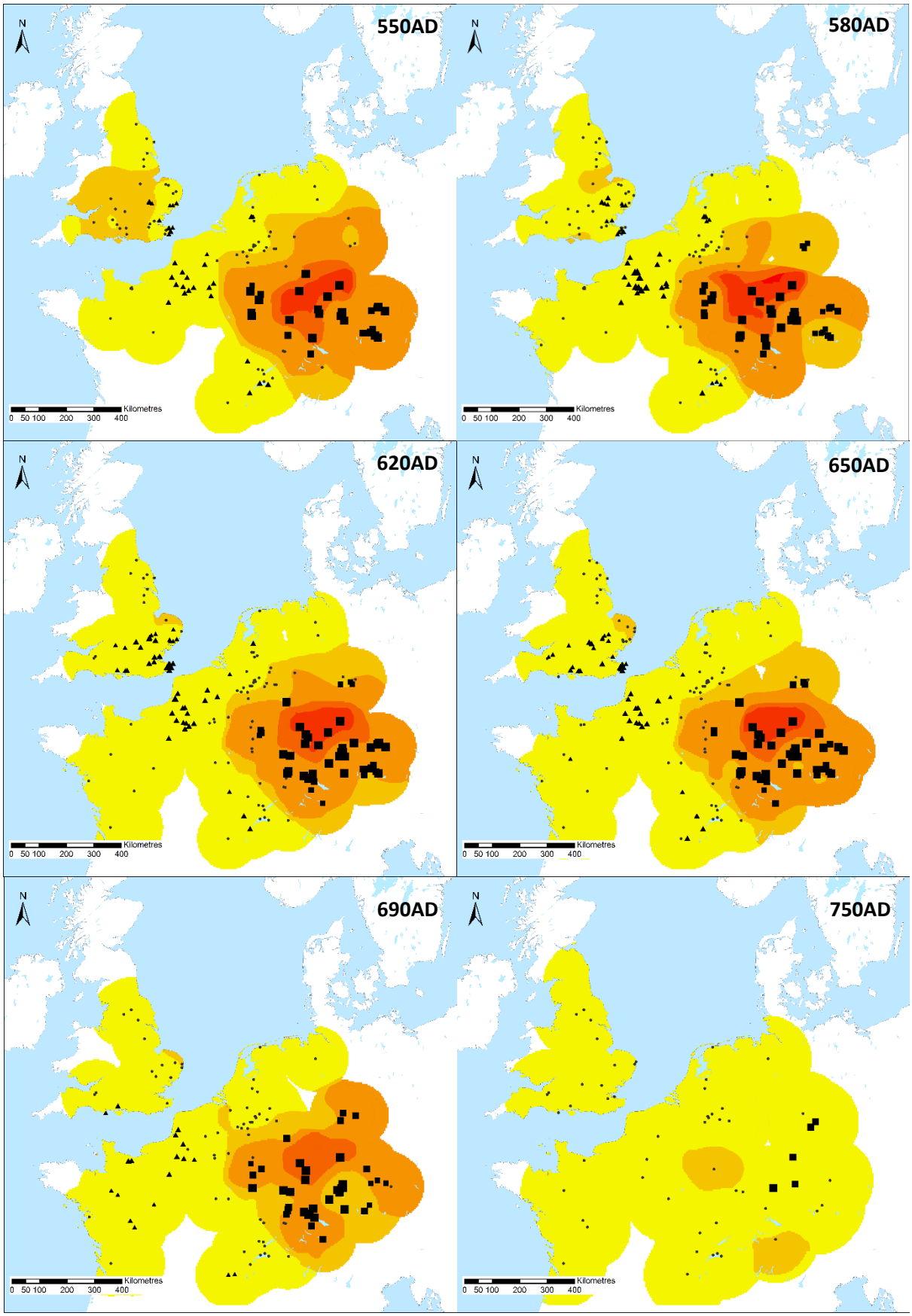

Figure 32: Relative kernel density maps of cosmetic use in across the sixth to eighth centuries, showing early abandonment in England. See Figure 31 for legend.

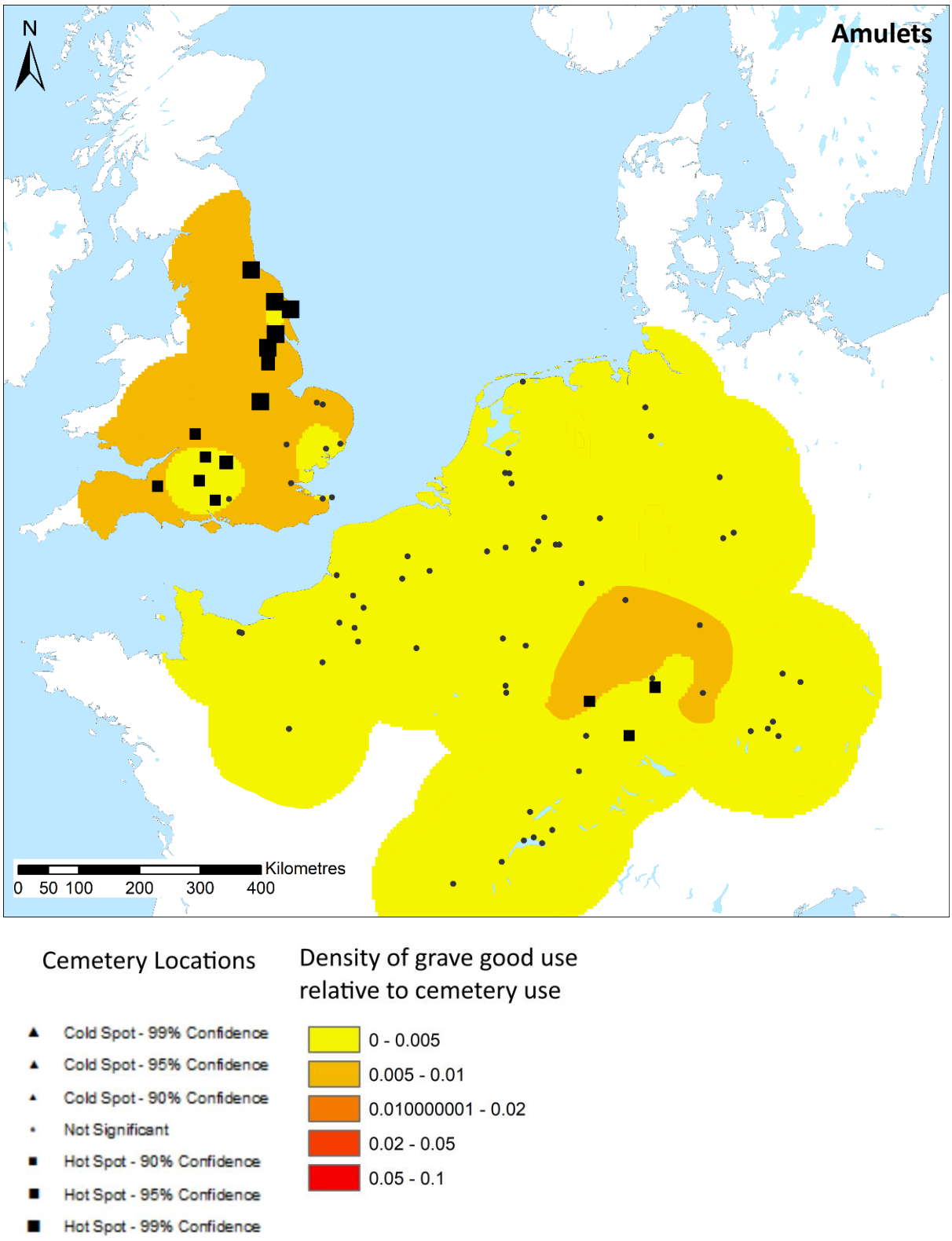

Figure 33: Relative kernel density map of amulet use in 500, showing high concentrations of amulets in England, but low levels on the continent.

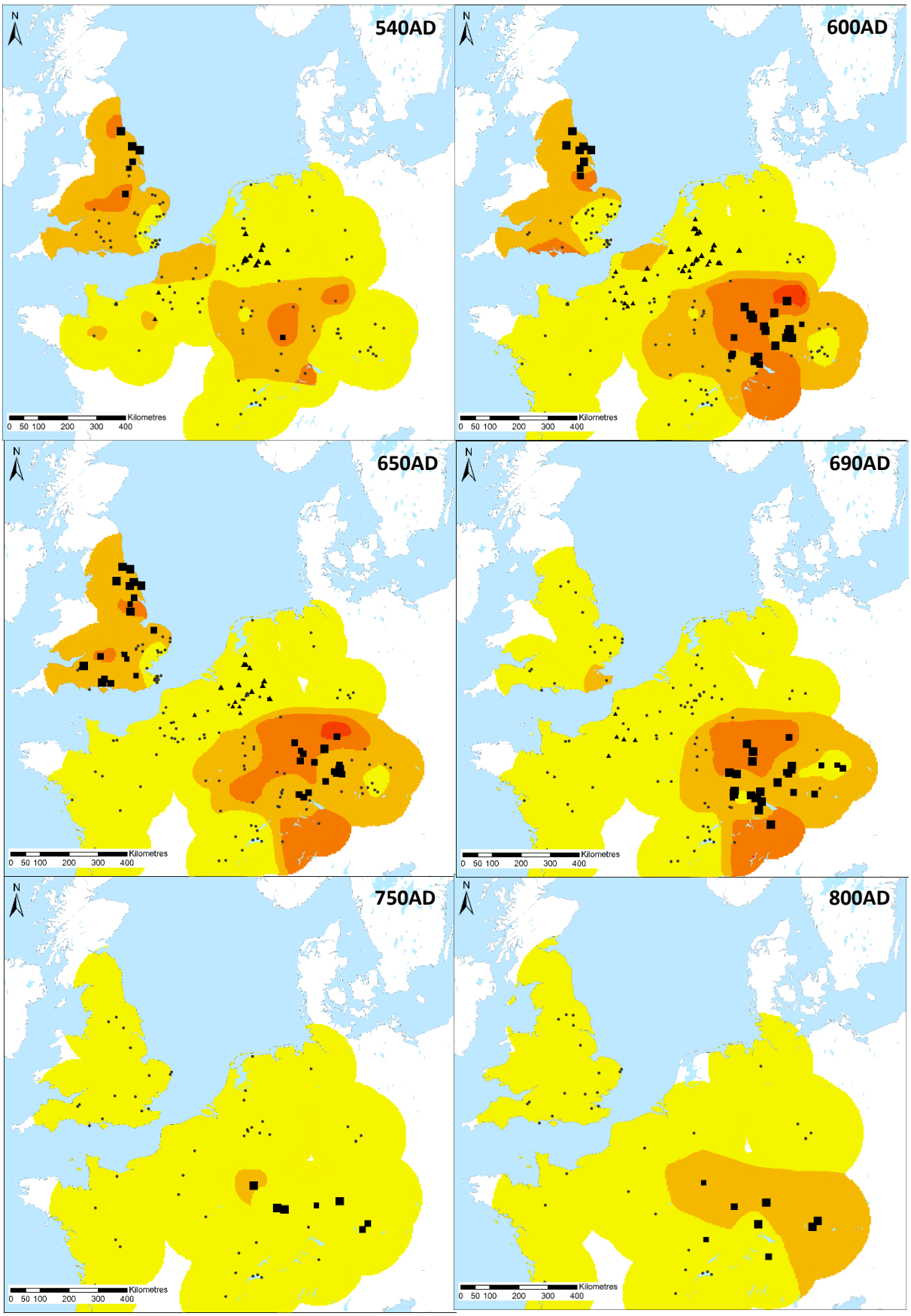

Figure 34: Relative kernel density maps of amulet use across the sixth to eighth centuries, showing an increase in the concentration of amulets in England and Alamannia up until the mid seventh century, and their abandonment in the eighth century. See Figure 33 for legend.

2.2.4.5. Tools and Animal Remains

Tools and animal remains also had similar distributions, and were found most commonly in Alamannia and Thuringia at the start of the sixth century (fig. 35, fig. 37), but were rarely included in graves elsewhere.

Due to the initial lower levels of tool use, it was difficult to see any concrete change over time in their deposition, especially as most of the major changes prior to late seventh century in other categories were seen in England, and tool usage in graves in England was particularly low. The main concentration in tool use was seen over Alamannia, and this vanished relatively rapidly, from 690 onwards (fig. 36), in line with furnished burial in general.

The use of animal remains in Anglo-Saxon England was relatively static over time. An area of lower concentration appeared in the cemeteries of East Anglia and Kent early in the sixth century, and gradually expanded, but elsewhere in England there was very little change until the critical point in 685. On the continent, meanwhile the use of animal remains in graves reached a peak around 570, and then gradually decreased, again with the process accelerating at the end of the seventh century. It was especially high at the cemetery of Oosterbeintum, which remained in use until 750, but otherwise was confined mostly to the Alamannian areas, without the later concentration in the Rhineland in the first half of the eighth century, which characterised so many different types of objects (fig. 38).

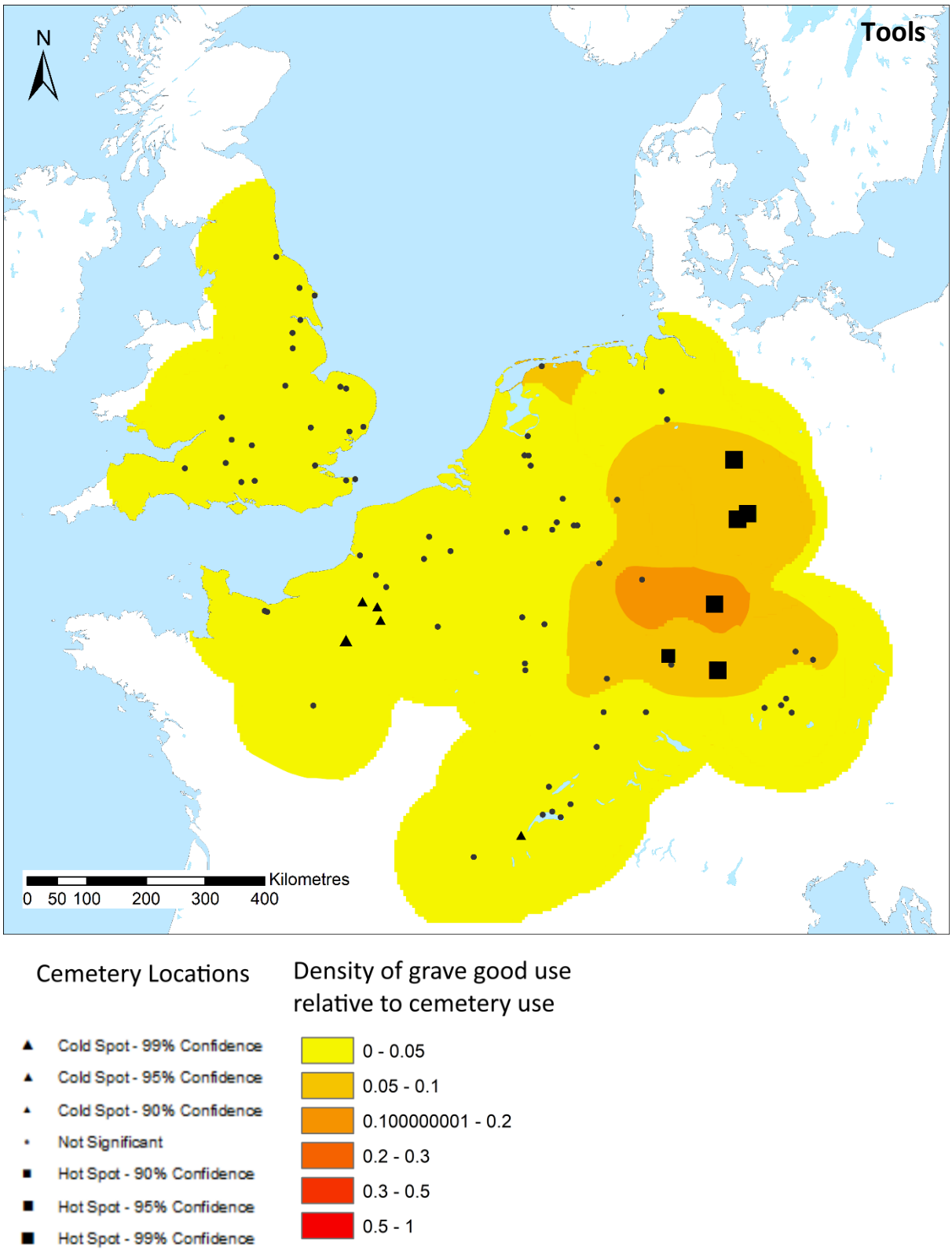

Figure 35: Relative kernel density map of tool use in 500, showing concentrations of tools over Alamannia and Thuringia.

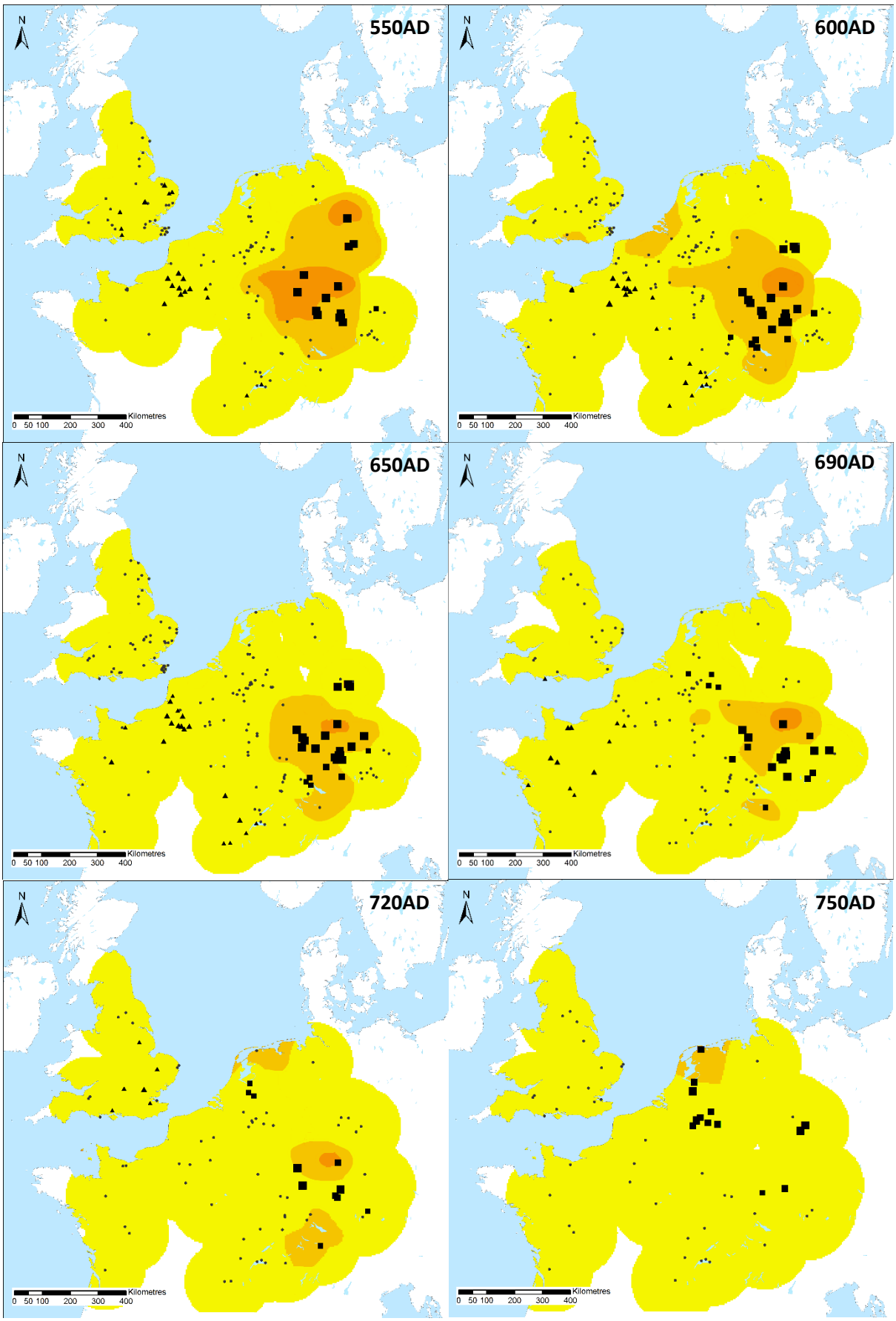

Figure 36: Relative kernel density maps of tool use in the sixth to eighth centuries, showing gradual contractions in areas of high tool use from the mid sixth century onwards. See Figure 35 for legend.

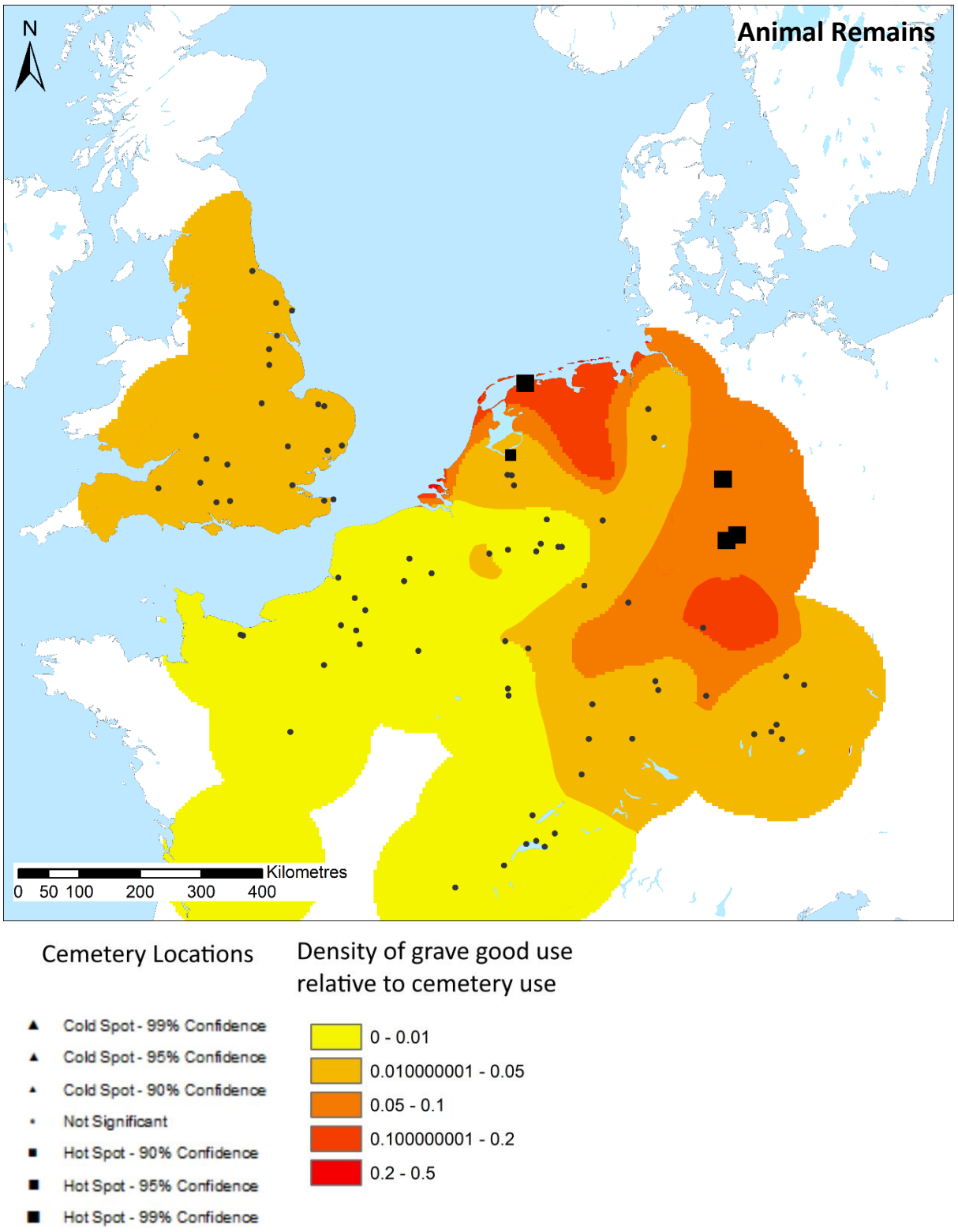

Figure 37: Relative kernel density map of animal remain use in 500, showing high concentrations over Thuringia and Frisia.

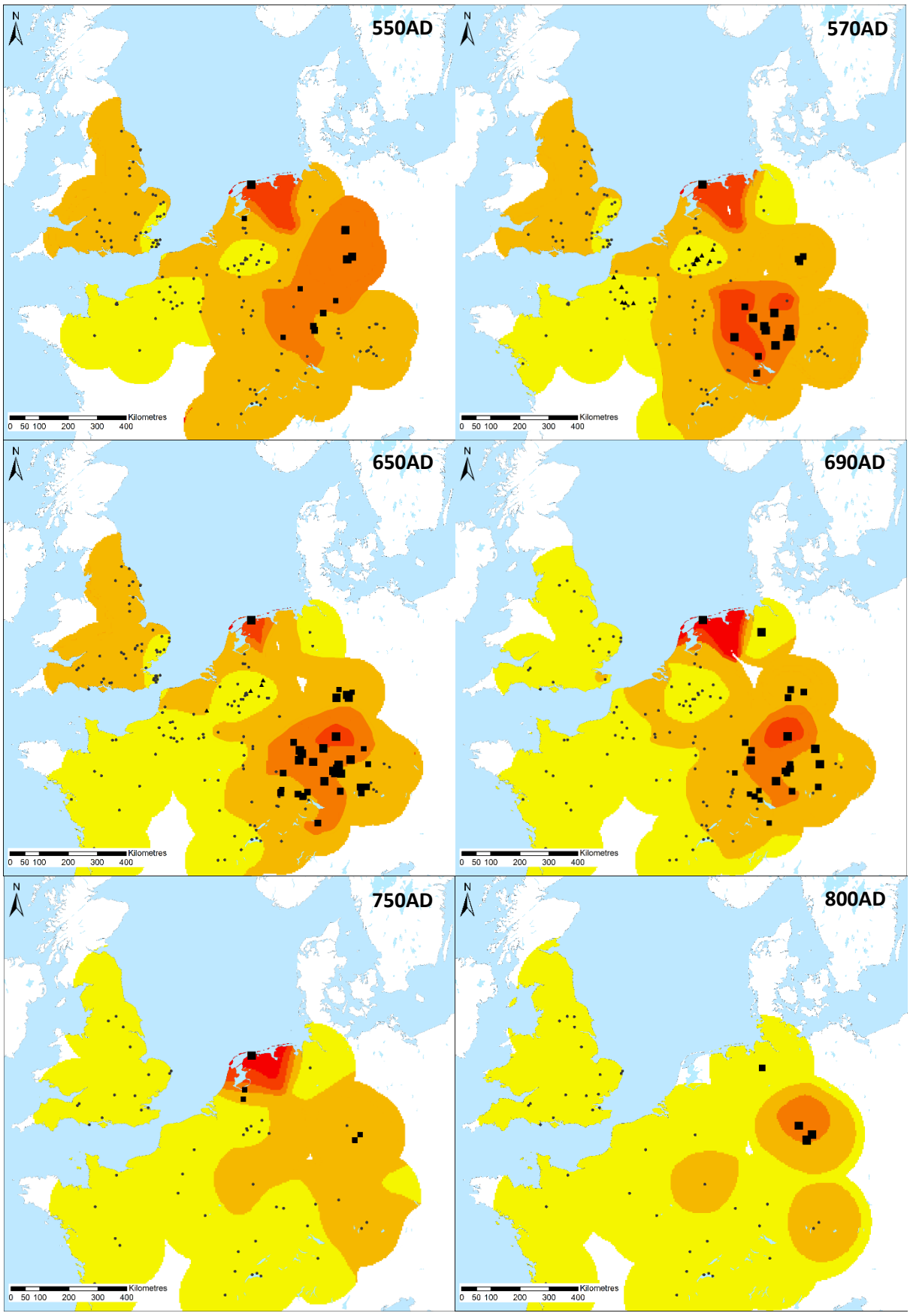

Figure 38: Relative kernel density maps of animal remain use in the sixth to eighth centuries, showing the development of a concentration over Alamannia by the late sixth century, and then decrease from the late seventh century. See Figure 37 for legend.

2.2.4.6. Coins

Coins were found in roughly similar regions to vessels, and were most common in areas where other types of grave goods were rarer, although coins themselves were one of the rarest types of objects found in graves (fig. 39). As with other categories of grave goods, the decrease in coin usage can be seen most clearly in England, from around 590, but was relatively static on the continent until the mid seventh century.

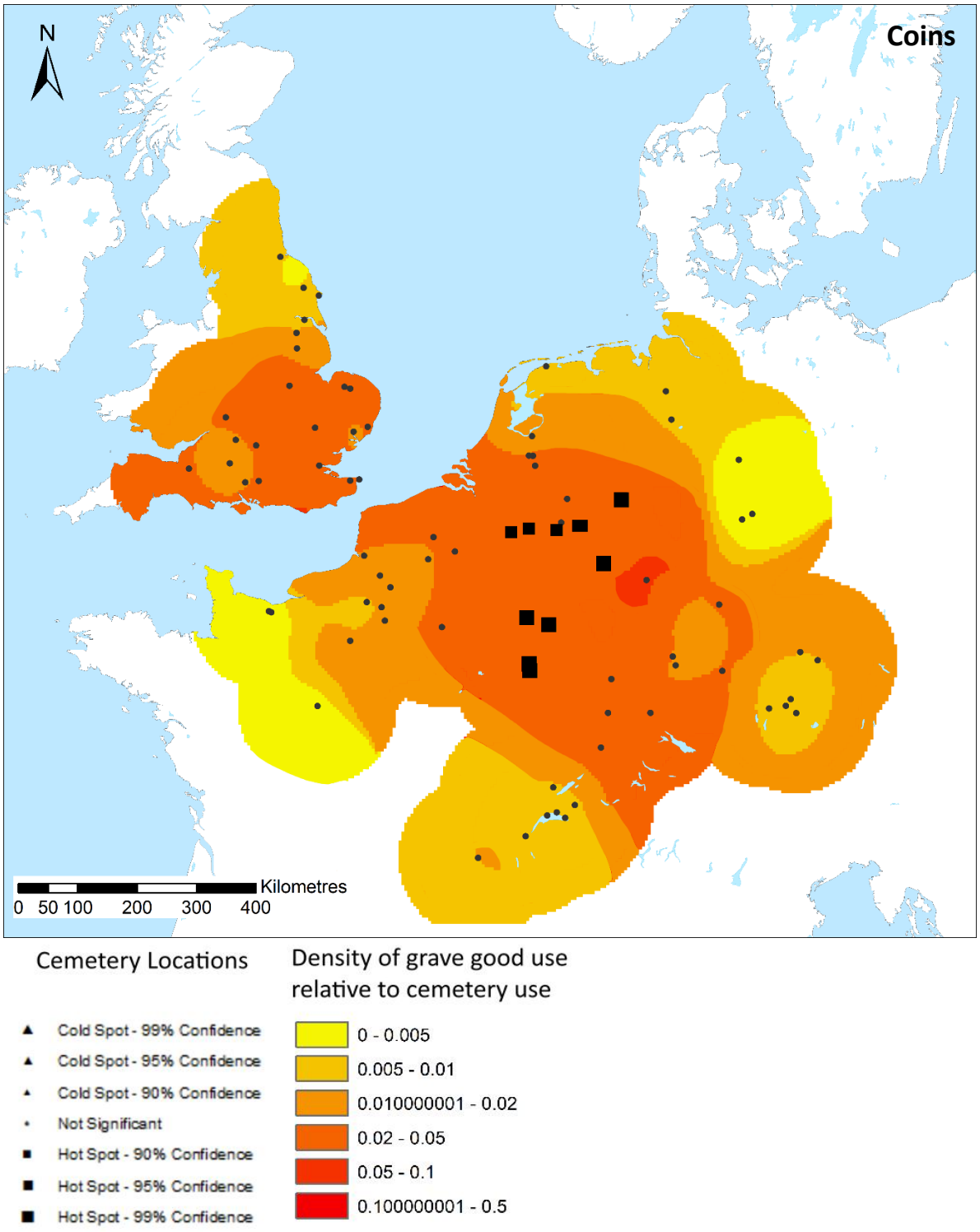

Figure 39: Relative kernel density map of coin use in 500, showing concentrations over the Lower Rhine.

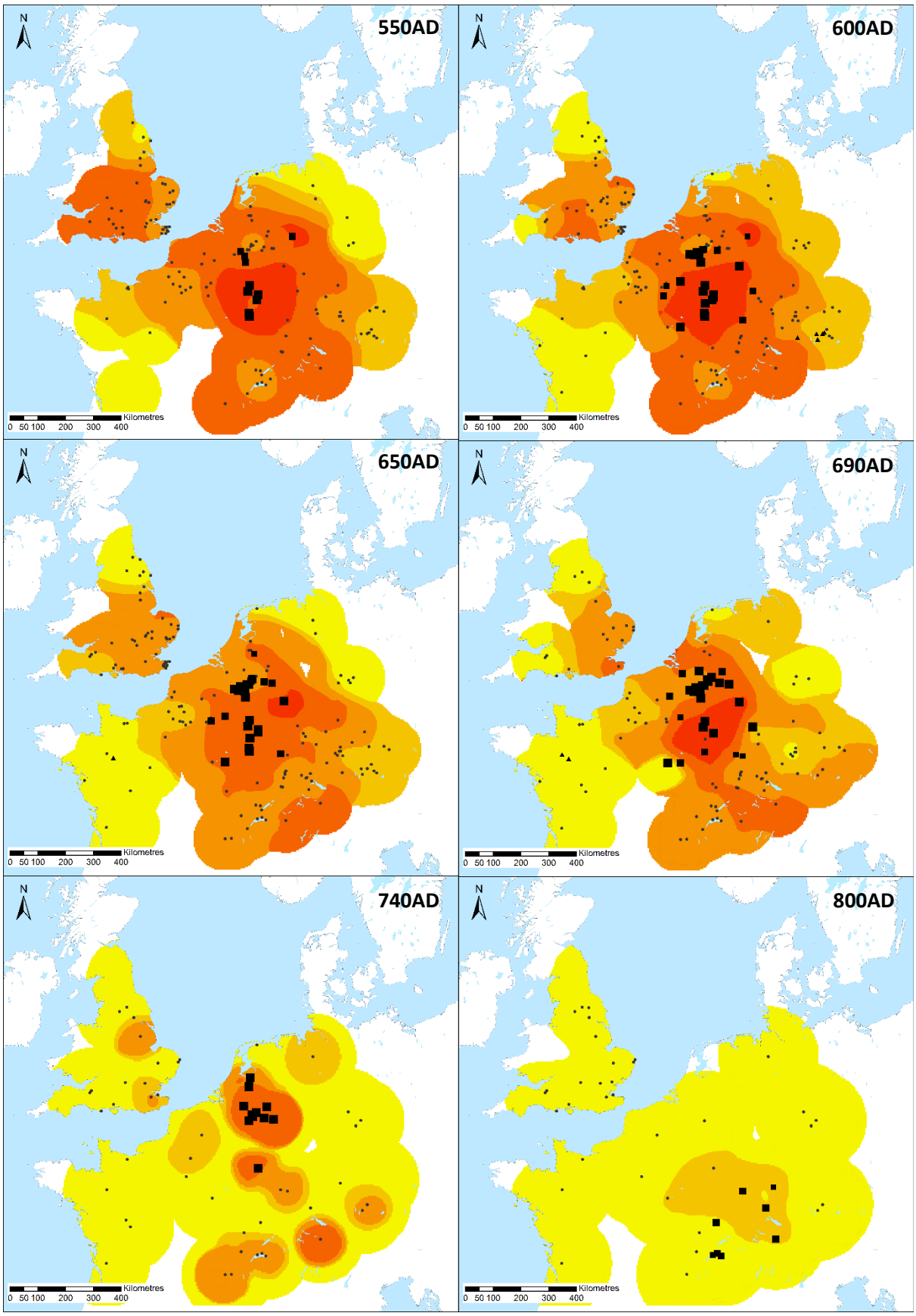

Figure 40: Relative kernel density maps of coin use in the sixth to eighth centuries, showing decreases in England from the late sixth century, and on the continent from the late seventh century. See for Figure 39 for legend.

2.3. Discussion

2.3.1. The Emergence of the Furnished Burial Rite

Societies across early medieval Europe were undoubtedly influenced by the legacy of the Roman Empire, and if we compare the frontiers of the late Empire to the distribution of grave goods at the start of the sixth century, some interesting patterns are visible (fig. 41).

The borders shown in fig. 41 are those of the Roman provinces in the year 200[3]. This is, of course, four hundred years earlier than the grave good distributions in question here, and the frontiers shifted after the third century. However, establishing exactly where those borders lay is a complicated process. While the frontiers of the Roman Empire in continental Europe initially followed the Rhine and the Danube (Braund 1996, 43), in the early fifth century, it is impossible to tell exactly where the boundary of Roman Empire was, and to what extent Rome retained control of its border provinces (Whittaker 1994, 132). There is an implication in the writings of Sidonius Apollinaris that the Roman Empire still controlled Germania Superior in the mid fifth century, but this may have been nominal rather than the political and economic control of earlier centuries (Whittaker 1994, 251-2). In some ways, though, the exact location of those frontiers is irrelevant, as it is more useful to think of frontier 'zones', rather than strict dividing lines between 'Roman' and 'Germanic' territories.

With the exception of Thuringia, and a few isolated cemeteries further north, areas of highest grave good use lay within the frontier zone, within the border provinces of the old Roman Empire: *Britannia*, *Raetia*, *Germania Superior* and *Inferior*, and *Belgica*. The distribution of highly furnished cemeteries also extended a little beyond the frontiers. The high concentration of furnished cemeteries over Thuringia is anomalous in this context, as it is the only area of high density of grave goods outside of this frontier zone, and requires further study. This is hampered however, by the frequently poor quality excavation reports from this area.

The internal border of *Lugdunensis* seems to form a boundary between this area of high levels of grave good use along the frontiers, and sparse levels of furnishing within the more southerly, interior provinces of the former Empire. There was also variation in the levels of furnishing within the border provinces. *Germania Superior* was a particular hot-spot for grave good use, in almost every category as well as overall numbers. This was a particularly contested area from the third century onwards; the forts along it were abandoned by the late third century, and the border defences pulled back to the River Rhine (fig. 42). There was a decline in population following this movement of the border, but cross-border activity

[3] Ancient World Mapping Center, 'roman_empire_ad_200_provinces' <http://awmc.unc.edu/wordpress/map-files/> [Accessed 22/05/18]

continued, with many landing places built along the Rhine in the late fourth century (Theune 2015). The *Reihengräberfelder* only began appearing in this area from the mid fifth century onwards, contemporarily with other regions, but initially they were concentrated in 'military' cemeteries associated with late Roman forts (Theune 2015). The longer history of political instability along this part of the frontier may explain why grave good deposition here was so much more intense than in other parts of the border provinces.

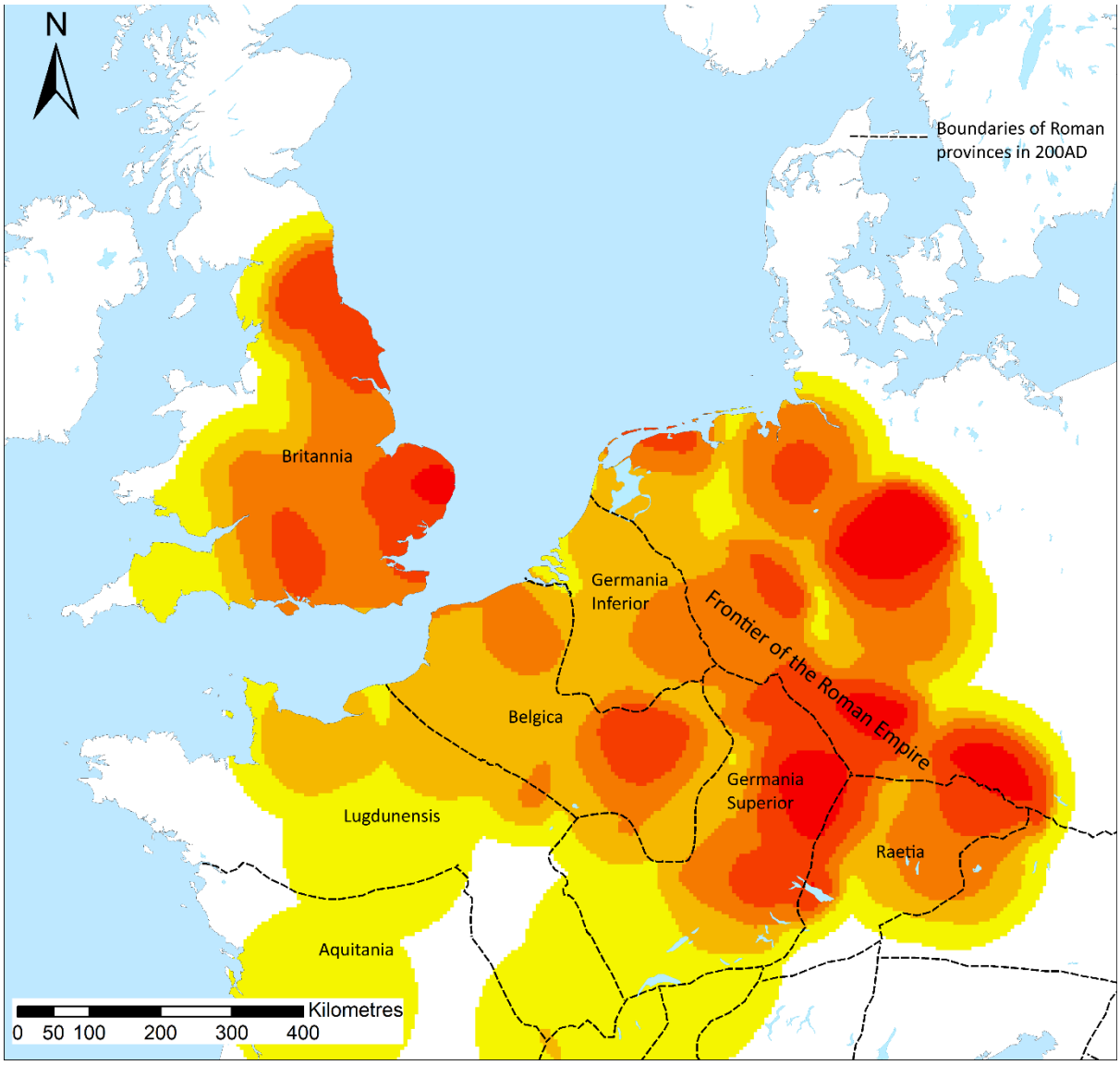

Figure 41: Grave good use in 600, with the Roman province boundaries in 200

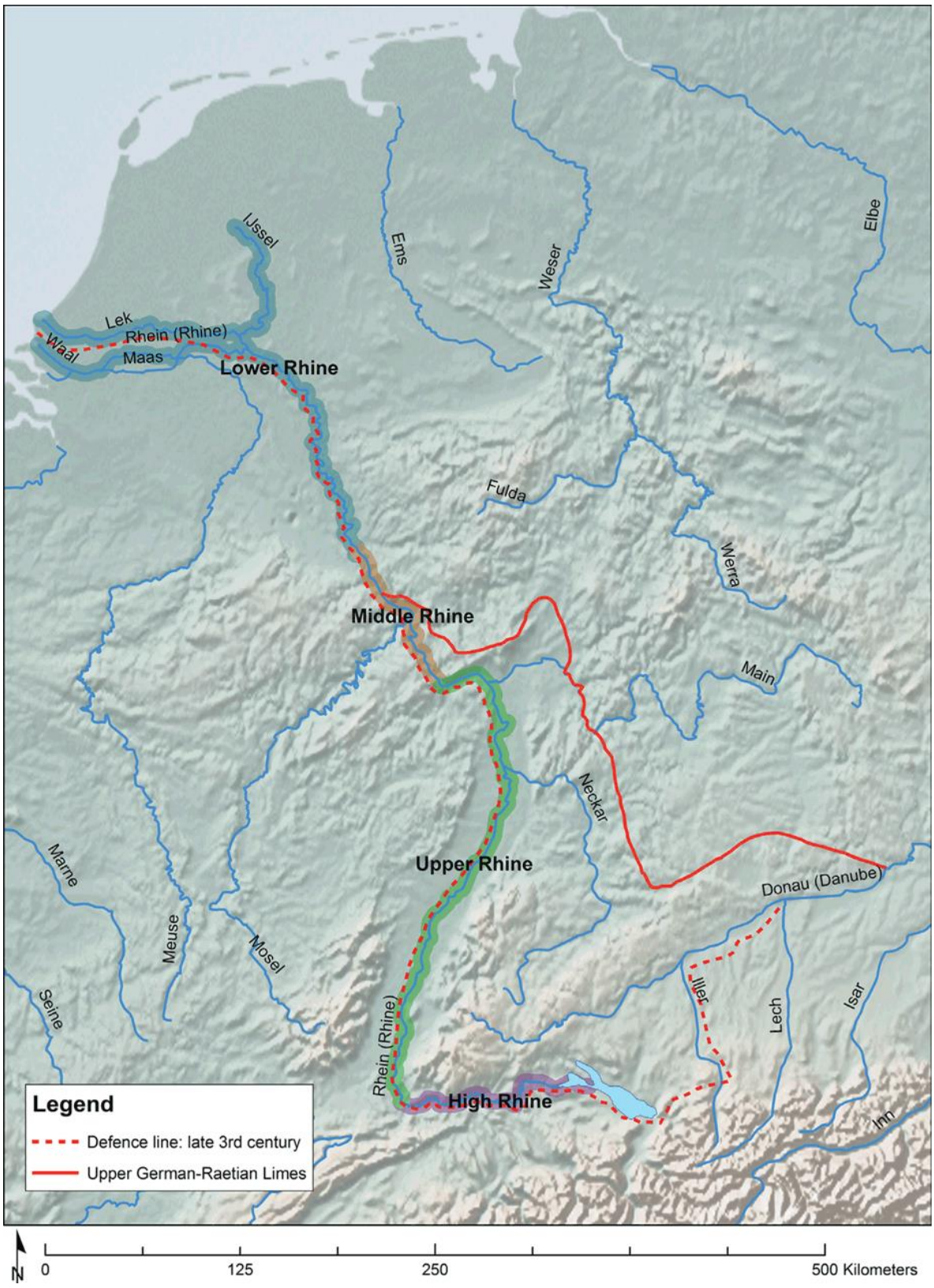

Figure 42: The Roman frontier in Germany in the late Empire. C. Theune, 2015, Transformations in the Roman West: The Case of the Alamanni. Reproduced with the permission of Oxford University Press, © Oxford University Press

The edges of the Roman empire were always culturally dynamic places created through interactions between a Roman military presence, and local populations on either side of a militarised frontier (Gardner 2007, 53). The idea that these furnished burials were those of

incoming ‘Germanic’ tribes who settled along the borders of the old Roman Empire is one which has long been critiqued, on the basis that the furnished inhumation rite is not significantly distinctive from local funerary customs in Late Antique Gaul, and it does not resemble funerary customs in the areas of Germany where the migrants are supposed to have moved from (Halsall 2010, 104). However, their almost unique presence along the borders of the Roman Empire suggests that they are related, if not to Germanic migrants, or Germanic culture, then at least to the unique circumstances in which Roman and local cultures interacted along the borders of Empire. Rather than seeing the Roman frontiers as distinct lines, where the Roman army set up a clear military boundary between the territory they controlled, and the territory they were defending against, the Roman frontiers were instead zones, in which trade occurred, and Roman and non-Roman cultures mingled (Whittaker 1994, 72, 84). It could be argued that the presence of the Roman frontiers along the Rhine and the Danube was crucial in the creation of ethnic identities beyond those frontiers (Curta 2005, 175). Weapon burials were rarely found along the Rhine frontiers themselves, though (Theuws 2009, 309). These frontier zones were created by trade of basic goods in a limited area either side of the official ‘border’, and the slightly longer-distance trade of prestige goods, which meant that the rural populaces on either side of the frontier were culturally more similar to each other than to the elites in the same areas. These distinctions between elite and rural material culture, which had existed throughout the Roman Empire, were exacerbated during the fourth century, when increased trade across the frontier meant that material culture within the Roman Empire became increasingly indistinguishable from material culture just beyond its borders (Whittaker 1994, 122, 127-8, 223, 229). It might even be possible to refer to ‘internal’ frontiers within border provinces, and conversely ‘external’ borders beyond them, marking these cultural differences (Whittaker 1994, 129). This is almost exactly what the distribution of furnished cemeteries in this region shows.

The situation of Britannia as a border province was slightly different to the continental provinces, but the use of grave goods there reflects the high levels seen in Germania Superior. The ‘collapse’ of Roman society in Britain has been heavily debated, but there is no doubt that there was a marked change in the economy moving into the early medieval period, as seen by the cessation in the use of coins, and the decline in industrial production (Gerrard 2013, 76). The cessation of Roman control over the province of Britain is clearer than in the continental provinces, as the empire made a very specific decision to withdraw their troops in the early fifth century (Whittaker 1994, 248). However, the defensive measures taken along Britannia’s northern border were different to those along the Rhine frontier; the defensive architecture remained outdated, in contrast to the Rhine forts which were redeveloped,

perhaps suggesting that Britain's borders were less contested than those of the continent (Gerrard 2013, 30-31, 37). There were also substantial differences in the fortification of British and Gallic towns in the late Empire (Gerrard 2013, 47). Nevertheless, England still very much had a frontier zone which was centred on Hadrian's Wall, but which extended as far south as York (Semple *et al.* 2017, 8). This area in the fourth century became its own province, separate from that of the rest of Britain (Collins 2017, 46), and which differed considerably from the south of Britain, seeming to embrace Roman culture less enthusiastically than the south (Gerrard 2013, 209). Gardner has demonstrated how this region was also one of interactions and fluidity, as the continental border provinces were; while the excavated farmsteads of this region show little evidence for Roman material culture, the towns attached to the forts along Hadrian's Wall allowed for a much greater range of contact between the soldiers occupying the forts, and local people (Gardner 2007, 48-9). Collins has argued that the foundation of the kingdom of Northumbria was in fact a direct result of the reformation of the Roman frontier, that the evidence for the complete withdrawal of Roman troops is limited, and many of the forts along Hadrian's wall were in use until at least the fifth-sixth centuries (Collins 2017, 46-48, Gerrard 2013, 163). Following the withdrawal of Roman state control of the army, military insignia were appropriated by local elites in order to maintain status (Gerrard 2013, 207). This would make the situation in Northumbria not so different from that along the Rhine frontiers, and helps account for the emergence of the furnished burial in these disparate regions.

2.3.2. The Diffusion of Unfurnished Burial

If we are to understand the spread of unfurnished burial, we need to consider this mapping not just as a visualisation of spatial processes, but we should also look at the social connections which created them in the first place (Knappett 2017, 31). One of the key observations is that the practice of unfurnished burial did not spread in a linear manner from one region to another. If this were the case, we would expect to see the concentration of unfurnished burial in southern France spread gradually further northward, and presumably Anglo-Saxon England would be one of the last places to abandon furnished cemeteries. Instead, we see an uneven pattern of abandonment, where the concentrations of furnished cemeteries contract in on themselves, most notably in England, from where they vanish first, then from southern Germany, and finally from the Lower Rhine region, until almost all of western Europe strongly favoured unfurnished burial. Although this model does not account for change within cemeteries, which will be examined further below, this suggests that the abandonment of the cemeteries in which furnished burial was practised was rapid, taking place across

geographically very distant areas within half a century. I want now to consider how this phenomenon may have occurred, and the effects which it had.

Broadly speaking, change in the archaeological record has been explained through two different, competing theories: an evolutionary approach, which expresses change as a response to a problem or inefficiency in the current system, and a diffusionist approach, which views change as something which is triggered through a process of contact and exchange. Neither model is perfect, and both can be critiqued as overly simplistic, and unable on their own to explain the archaeological processes we view (Rahmstorf 2011, 100); they nevertheless have their uses as long as neither is applied too rigidly. Diffusion studies dominated the early years of archaeological thought, but fell out of favour with the post-processual movement, because of the colonial overtones which were often associated with it (Rahmstorf 2011, 101). However, there is a way of approaching diffusion which allows the group adopting the external practice do so with a certain amount of agency, rather than assuming that practices were imposed by an external authority. I prefer to view unfurnished burial as a practice which was actively adopted, rather than imposed, and to consider the motivations behind this. Diffusionism can provide a means of doing this.

One of the most influential works on the subject of diffusion was Rogers' 1983 *Diffusion of Innovations*. The theories presented therein mostly concern modern technological innovations. Rogers focuses more on 'centralised diffusion systems' in which there is a 'change agency' actively promoting a technology in a target community, rather than a 'decentralised diffusion system' in which the process of diffusion is more organic (Rogers 1983, 7). In the early medieval period, a decentralised diffusion system is almost certainly the more appropriate model, meaning that Rogers' work has limited applicability. Nevertheless, there are still useful ideas contained within, which can be applied to processes of diffusion in the early medieval period. This is an issue with most models of diffusion, which were created to consider the spread of technological innovations, something which is relatively easy to identify archaeologically (Rahmstorf 2011, 102). The adoption of unfurnished burial was a very different process, a behaviour inspired by religious or social beliefs. One area where models have been developed to understand behavioural diffusions is in the field of linguistics. Burials are sometimes discussed using the metaphor of language; they have grammar, regional variation is analogous to dialects, and they can be viewed as compositions in the same way poetry is (Carver 2000, 37-38). While this is a metaphor which should not be taken too literally, linguistic diffusion can also provide some useful ways of understanding the diffusion of different burial practices.

The first issue to consider is why individuals within a community might choose to adopt an innovation. Technological models of diffusion view this as an active choice, if not necessarily a rational one, while linguistic diffusion posits it as a subconscious process (Trudgill 1974, 225). Funerary practices lie somewhere between the two; not entirely subconscious, but certainly not rational. Rogers suggests four issues which affect how quickly an innovation diffuses throughout a society: the perceived advantage it provides, the degree to which it is compatible with existing values, the degree to which it is difficult to understand, and the degree to which it may be experimented with on a limited basis before being permanently adopted (Rogers 1983, 15). Unfurnished burial fits these criteria well. It was entirely compatible with existing values, and incredibly easy to understand, as it was part of the repertoire of acceptable burial practices for a long time before becoming the dominant practice. It was also a practice that could be experimented with; the choice of exactly how to bury a cadaver is one which was taken again and again, with each successive death in a community. Even if an individual burial may seem final, the evidence of grave reopening in the early medieval period suggests that there was always the possibility to add new objects to a burial if the mourners felt that the initial ritual had been insufficient. One of the most important motivations for adopting an innovation is the perceived status it provides to its users (Rogers 1983, 215). Much of the existing literature has viewed unfurnished burial as the low-status counterpart to the small number of richly furnished, high-status 'princely' burials. However, this is only true if we understand burial as reflecting a status dichotomy; if we instead think of every burial as an act of agency, then unfurnished burial can be viewed as a desirable practice conforming to the changing status quo.

Perhaps the most archaeologically relevant aspect of Rogers' research is his investigation of the speed of diffusion. He splits his adopters into four categories: early adopters, the early majority, the late majority, and late adopters (Rogers 1983, 22). The speed with which new behaviour patterns are adopted within a community varies throughout the process of adoption, as demonstrated in fig. 43. Early uptake is usually slow, as only a few innovators experiment with the new practices. Once, however, the behaviour is adopted by 10-25% of the population, its adoption by the remainder becomes increasingly more likely, as the system self-generates the pressure to adopt (Rogers 1983, 11, 234). Finally, the rate of adoption slows, due to the resistance of the late adopters, some of whom may never adopt the new behaviour.

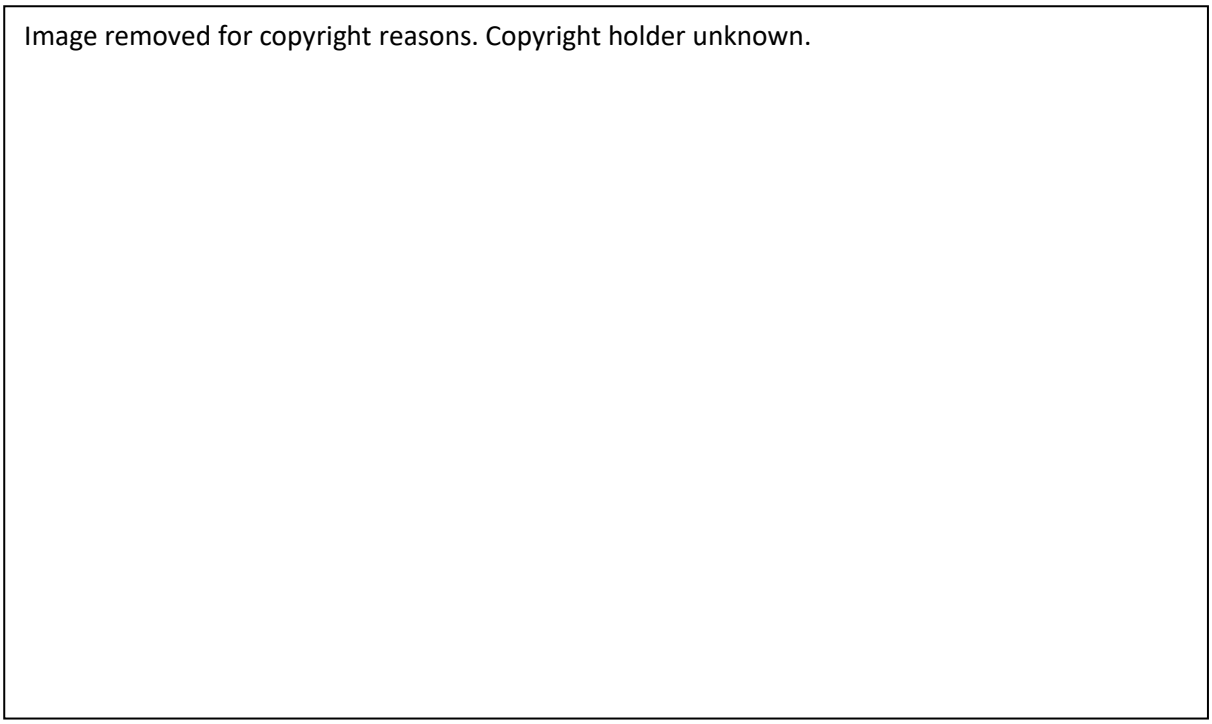

Figure 43: Innovation adoption curve (Rogers 1983, fig. 1.1)

This pattern of adoption perfectly fits some of the patterns shown above. Furnished cemeteries were gradually abandoned as early as the mid sixth century, particularly in England. On the continent this was less pronounced, though there were very small, gradual changes there as well. This was followed by a clear acceleration in the abandonment of furnished cemeteries at the end of the seventh century. There was a sharp contraction in areas of high grave good use on the continent at the same time as almost complete abandonment occurred in England, which was visible not only in the overall numbers of grave goods, but was also reflected in the distributions of individual artefact categories, such as dress accessories, jewellery, personal accessories, coins and vessels. Contraction was still evident, though less obviously, with fittings, cosmetics, weapons, tools. Some of the less frequently used types of objects seem to have begun decreasing earlier; tools began vanishing from graves from the start of the seventh century, while areas of high cosmetic use began shrinking from 560 onwards. The areas of high vessel use also changed in an unusual manner, with a sudden contraction between 550 and 560 followed by a gradual decline. The areas where amulet use was common decreased from 590 onwards, while coins decreased from around 610 onwards. These were the rarer categories of objects though, and in the most common areas, the pattern of abandonment seems to have followed that specified by a diffusion curve; slow at first, then gathering momentum, but with a few ‘late adopters’ retaining the practice of furnishing graves until long after everyone else had abandoned it. The Lower Rhine seems to have been a particularly resistant region, not abandoning furnished cemeteries until the mid

eighth century, and throughout the entire region, there were a few isolated burials and communities who continued to use grave goods. At the end of the eighth century, there were still some cemeteries which show as statistically significant hot-spots. This does not mean that grave good use in those sites was particularly high, as in a period where grave good use everywhere was so low, even one or two objects in one or two burials in a cemetery could cause a statistically significant difference. This does show, however, that grave good use was not entirely abandoned, and that limited deposition continued in some areas. This is true of the entire later medieval period, where it has been estimated that two percent of later medieval British burials contained objects of some sort (Gilchrist 2008, 124), while Corrochano and Soulat (2017) have suggested a similar level of continuing, though much reduced, grave good use in France. Interestingly, though, the rite seems to have been more completely abandoned in England than it was on the rest of the continent, as almost all English cemeteries show as statistically significant cold-spots for the majority of the eighth century.

This does not, however explain how such geographically distant areas were bound into one system which allowed unfurnished burial to diffuse so rapidly. Networks for spreading new behaviours are more effective when they are interpersonal, and therefore they tend to link those who are close in terms of physical distance to each other (Rogers 1983, 299). We can thus conclude that the practice of unfurnished burial was more readily adopted from other members of the community, rather than being imposed top-down by an organisation such as the Church. It is clearly not the case, however, that the concept of unfurnished burial spread simply because people were copying their neighbours, as this would result in more of a linear spread. Linguistic diffusion theories refer to this as contagious diffusion (Bailey *et al.* 1993, 366). This is rarely how languages actually diffuse, however. More common is hierarchical diffusion, which emphasises the importance of urban centres in spreading changes; an innovation will jump to central places, due to their greater social connectivity, and from there will spread out to the surrounding rural areas (Britain 2013, Trudgill 1974, 224). In language diffusion, physical features of the landscape rarely act as impediments; rather it is demographic characteristics, such as ethnicity, education and occupation which affect how rapidly and in what areas linguistic changes diffuse, again emphasising the importance of inter-personal networks (Bailey *et al.* 1993, 366).

There, are, however, some key differences between linguistic diffusion and cultural diffusion. Languages come into contact in everyday social interactions; funerals are a much rarer occurrence than speech, and not something which could be spread by casual contact; they instead imply contact with communities for long enough to witness death and burial, or at

least to discuss conventions. Identifying exactly how various linguistic innovations diffuse is a complex process, and one that is difficult enough in a modern context when factors such as social status are easily identifiable; attempting to identify such patterns of behavioural diffusion in the past, when such factors are far more ephemeral is even harder, but there are nonetheless some useful theories derived from linguistic models of diffusion which can be applied in an attempt to understand the patterns seen.

These approaches require a certain level of connectivity across large parts of early medieval Europe, and there is evidence from other areas, particularly the study of trade networks, that such connectivity did exist. Trade can create unified areas in which developments in quite disparate regions seem interrelated, and the regularity, the speed, and the intensity of such exchanges moderate how interconnected the regions in question become (Beaujford 2011, 8). In the North Sea region, much focus has been placed on wics or emporia; large trading and artisanal centres located mostly around the North Sea, founded during the second half of the seventh century, a trading network that encompasses not just Anglo-Saxon England and the Frisian Coast, but also Scandinavia (Loveluck 2013, 16). These include settlements such as Ipswich, Hamwic, Lundenwic, and Eoforwic in England, and Quentovic and Dorestad on the Frisian coast. The traditional narrative developed by Hodges in *Dark Age Economics* (1982, updated 2012), was that they were centres founded by elites for the purpose of controlling trade. This has been challenged, however, by the presence of a network of smaller centres, and beach trading sites around the North Sea (fig. 44), indicating more bulk exchange and suggesting a high degree of interconnectivity through trade at all levels of society, not just the elite (Loveluck and Tys 2006, 151-2). Long-distance luxury exchange almost always exists, and is a poor indicator of how truly interconnected areas are. A better indicator is the presence of bulk exchange: the large-scale movement of goods between regions, usually materials like ceramics, metalwork, clothing or glasswork (Wickham 2006, 699). Although Kent is traditionally thought of as being the part of England most closely connected to the continent, East Anglia, with its favourable location on the North Sea, was also closely connected by trade to the other side of the North Sea (Pestell 2017, 193). Bulk exchange was always present to some extent, as shown by the large volume of imported goods found in rural cemeteries (Theuws 2012, 34); nor are bulk and luxury exchange entirely separate, and objects can move between these spheres (Theuws 2004, 125). Nevertheless, there seems to have been an increase in bulk, long-distance trade, especially in the late seventh century (Tys 2018, 173).

At the start of the sixth century, the North Sea network was marginal to the Frankish sub-regional trade (Wickham 2006, 803, 818). Ceramics are one of the best means of tracing such

long-distance trade networks, although there are potential problems; while it dominated as a container for other goods in the Mediterranean world, in northern Europe, other containers such as wooden barrels were also used, meaning that the distribution of pottery may not fully reflect trading links (Theuws 2012, 36). In the absence of those other containers, though, it is a useful proxy. Anglo-Saxon ceramic traditions were highly localised; the settlement at Mucking, for example, had exclusively local and hand-made pottery (Wickham 2006, 806-7). Ipswich ware was one of the earliest ceramic types to be found across wide areas; despite being mainly found in East Anglia, it was traded across Anglo-Saxon England from 720-850, and only Wessex had few finds (Blinkhorn 2012, 8, 87). Kent was the only region in England where imports were at all common in the sixth century, mostly luxury imports coming from Frankia, and most Frankish pottery found in England has been found in Kent (Wickham 2006, 808). Approximately 12% of all Kentish graves contained items in a Frankish style (Soulat 2013, 208). Kentish-style pottery has also been found in cemeteries and settlements right along the French Channel coast, but a petrographic analysis revealed that these were made of local clays, and so were not imports. Though they are indicative of some level of cultural contact, they are not evidence of the sort of bulk exchange which would imply an interconnected network (Soulat *et al.* 2012, 219).

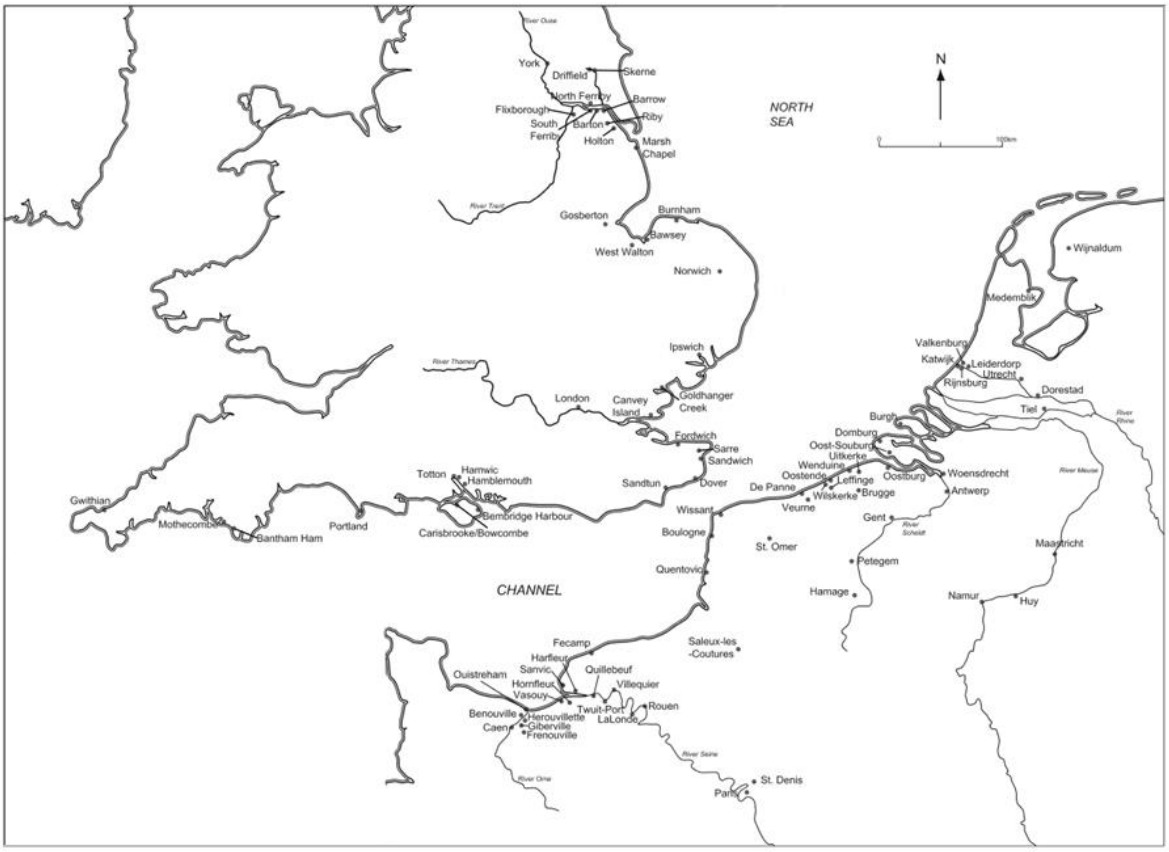

Figure 44: Wics, coastal trading sites, and beach sites in England and the continental shore. Adapted/ by permission from: Springer, Journal of Maritime Archaeology, Coastal societies, exchange and identity along the Channel and southern North Sea shores of Europe, AD 600–1000, C. Loveluck & D. Tys © 2006, fig. 2 & fig. 4 https://doi.org/10.1007/s11457-006-9007-x

The Frankish world seems to have been more connected than Anglo-Saxon England was in the same period. Whilst the fifth century in northern Gaul saw a tendency towards regionalisation in ceramic wares, following the high levels of interconnectivity in the Roman Empire, ceramic production still existed on a substantial scale (Wickham 2006, 797), and certain wares were still exchanged over a large area. Distribution of Mayen-ware, for example, dominated 300km of the Rhineland (Wickham 2006, 798). There was active exchange of bulk products between at least neighbouring city territories throughout the Merovingian period, and these networks were linked together along the main river valleys, the Loire, the Seine, the Meuse, the Moselle and the Rhine (Wickham 2006, 800), creating a Frankish world that was connected, and to some extent shared a culture. The fact that almost all medieval centres developed along a river, or on the coast (Theuws 2012, 38), emphasises the importance of these routeways in creating links between regions. This broadly matches the areas where there were similarities in the types of grave goods used; although there were differences between West Frankia and the areas along the Lower Rhine and Low Countries in terms of the overall levels of grave good provision, at the start of the sixth century, they formed a unified region in which the use of vessels was one of the highest in Europe, and many other categories of grave goods were also used at the same levels in these two regions. The spread of Badorf-ware in the eighth century was a sign of widening networks of exchange: this pottery type spread across the Rhine and Meuse valleys, and was also found on rural sites (Wickham 2006, 801, 803). There were, however, still areas within Frankia where the distributions of such ceramics did not reach (Wickham 2006, 801).

Alamannia and Bavaria are notably absent from these discussions of large-scale distribution networks. Loveluck's (2013) survey focused primarily on England, France and Belgium, and Wickham's (2006) survey covered the vast majority of the old Roman Empire, ranging across north Africa, the Middle East, and Byzantium, across Spain, Gaul, Britain, and touching on Denmark, but the South Germany was not discussed. This does not mean these areas were isolated, though; the distribution of 'Coptic' copper-alloy vessels in northern Italy, along the Rhine and Danube river, and in south-eastern England, especially Kent, attest to the existence of such a trade network, linking southern Germany to other parts of Europe (fig. 45, Werner 1961, 312). The distribution of these vessels was matched by other luxury items such as amethysts, cowrie shells, and elephant ivory rings (Harris 2003, 65). These were luxury items, and were found widely distributed prior to the increase in bulk exchange, as early as the fifth century in many cremation graves at Spong Hill (Hills & Lucy 2012, 103). Although the interpretations of these as Coptic vessels has been questioned on the grounds that they are not of a style originating in Egypt, nor does the chemical composition of a metal indicate such an

origin; they were most likely produced in Italy in imitation of Byzantine styles (Périn 2005, 88, 92); they therefore may not represent true long-distance trade, but still indicate a trade network in the part of Europe that most concerns this thesis.

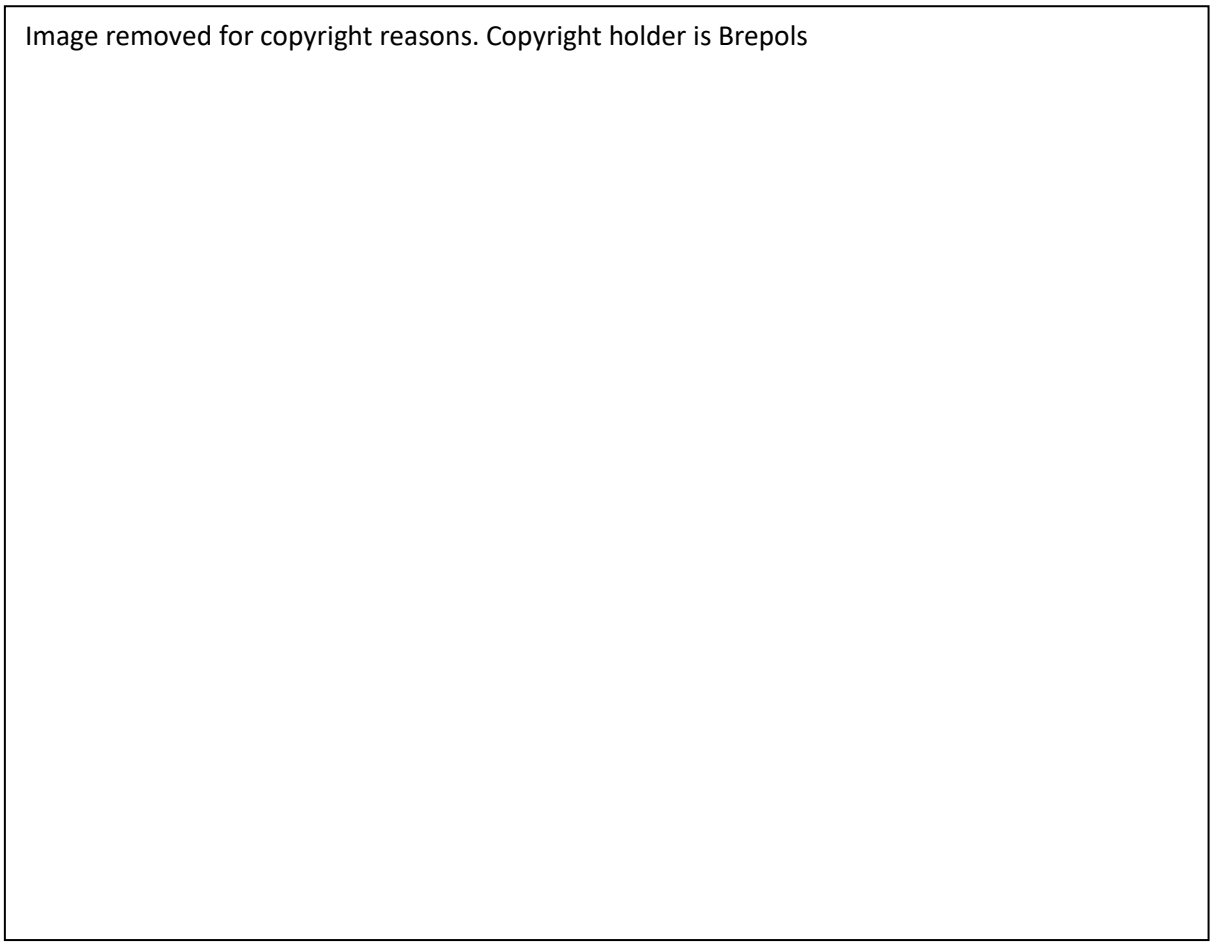

Figure 45:The distribution of 'Coptic' copper-alloy vessels. After Périn 2005, fig.4 & 5

What these trade networks suggest is that prior to the seventh century, there were fewer connections between Anglo-Saxon England and the continent, with the exception of Kent. The absence of specialised trading sites prior to this time has been taken as a sign of the weak integration of these regions (Sindbaek 2017, 556). There is relatively little evidence prior to the seventh century implying a bulk exchange network, though elite goods were circulating (Wickham 2006, 808). This changed around the mid seventh century, when evidence for sustained, bulk exchange increased, immediately prior to the sudden acceleration in the abandonment of furnished cemeteries. This perhaps suggests that these networks played a crucial role in allowing the concept of unfurnished burial to diffuse across such a large area.

Another potential means of accessing networks of connectivity would be the Roman road network (fig. 46). A relationship in southern England has already been established between the routes of Roman roads, and the locations of early medieval cemeteries (Semple *et al.*

2017, 12), showing that they continued to be of importance in the landscape. On the continent, a major Roman road running from Bavay, through Tongres, Maastricht, and leading to Cologne, remained an important route during the early medieval period (Theuws 2001, 207). However, a recent analysis of the British Roman and early medieval networks carried out using a PageRank analysis suggested that in Britain at least, river networks were far more important routes of transport than road networks were (Brookes and Huynh 2018, 488). It has been suggested that roads became increasingly less important forms of transport once the fall of the Roman Empire made them less secure routes. Instead, water transport became comparatively more important, and thus areas away from the coast or major rivers became more isolated from long-distance trade (Harris 2003, 12-15).

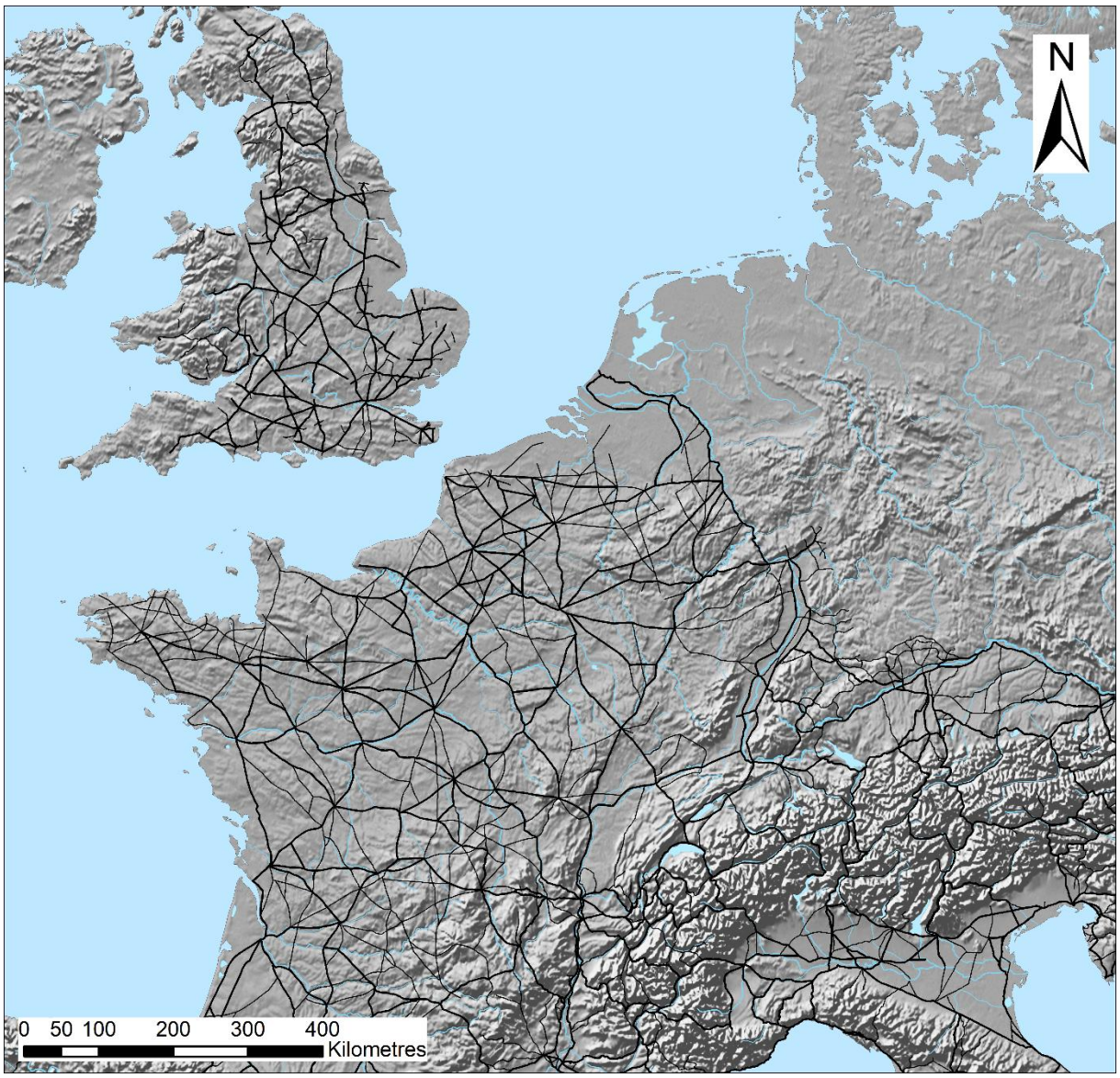

Figure 46: Roman Roads. Ancient World Mapping Center, 'ba_roads' <http://awmc.unc.edu/wordpress/map-files/> [Accessed 25/05/18].

These trade networks were not the only evidence for large networks of cultural connectivity. The widespread use of items such as cruciform brooches, albeit with regional stylistic

variations, across England, Scandinavia, and into central Europe, indicate a wider network, linking, in this instance, women (Martin 2015, 230). Brooch types were not uncommonly found outside of their 'normal' distributions; Frankish, Alamannic and Thuringian brooches were found in Bavarian cemeteries (Hakenbeck 2011, 61), and the same is true of graves in northern Gaul (Kazanski and Périn 2009, 153-156). The Anglo-Saxon swords, shields, and belt-fittings of the first half of the sixth century had many parallels in contemporary continental material culture, as did the beads in the female assemblages (Hines 2017, 12, 15). It is not clear whether these were objects which moved with their owners, whether they were traded, or whether they were local copies of 'exotic' items, but in some ways this is irrelevant; they provide evidence of shared knowledge of material culture types across wide areas.

What we can see from this survey is that there were pre-existing networks of connectivity across the early medieval world, through which cultural ideas such as burial practices could be spread. England stands out as a region where slightly different processes were occurring; the change in grave good use prior to the end of the seventh century was much more evident in England than it was on the continent. This does not mean, however, that grave good use was more volatile in England. Almost all of the Anglo-Saxon cemeteries were dated by the same chronological scheme, meaning that we can be confident about how they relate to each other. For the rest of Europe, I had to compare cemeteries dated using slightly different schemes, even in the areas where larger chronological schemes exist. Even though these different schemes are broadly comparable, there was most likely some variation in the details, which obscured the rate of change. The apparent stronger trends in the English sample may just be a product of dating methodologies, therefore, rather than a specific difference in the way grave good use changed.

The most important contribution of this diffusionist approach is that it suggests that the adoption of unfurnished burial does not need to have had a particular cause. Indeed, the search for a single overriding cause is most likely a futile one. It is also possible for change to be gradual enough for it not to be noticeable by those taking part in it (Nilsson Stutz 2015, 6). Instead, all it takes is for a select few communities to have adopted entirely unfurnished burial. Once this behaviour was present in as little as 10% of the population, the process of adoption could gather momentum, and spread to the rest of the population, not necessarily for the original motive, but simply through a process of communities copying their neighbours. This diffusion curve matches very closely what we see in the maps of the spread of unfurnished burial, and suggests that the spread of unfurnished burial had less to do with one

single cause and more to do with the spread of an idea by the process of diffusion as a result of contact and communication between different communities.

While it is not hard to demonstrate the links between disparate areas, what is more difficult is assessing the significance of such links (Kohl 2011, 79). Diffusion of one aspect of a culture on its own does not imply that every aspect of such a system is tightly integrated (Kohl 2011, 85). Nevertheless, the point of similarity across many disparate areas is an important one. One way of understanding this phenomenon is through the lens of globalisation. Globalisation theory provides a means of understanding large-scale social connectivities, and the networks by which those associations develop and are maintained (Hodos 2017, 3). Globalisation does not have to refer to the entire world, but can be a phenomenon taking place on a variety of scales. It refers simply to increasing connectivity over large areas, often involving the sharing of cultural customs and even communities which are geographically isolated can be a part of larger socio-cultural groupings (Hodos 2010, 14; 2017, 4). Hodos (2017, 4) defines globalisation as 'processes of increasing connectivities that unfold and manifest as social awareness of those connectivities', and she emphasises the importance of shared practices, not just of communication, in creating those connections. An alternative definition of globalisation can involve the world becoming to be seen as one place (Robertson 1992, 8). This links to the concept of 'time-space compression' whereby the world feels smaller, which means that changes in one place can spread swiftly across a broad region. Jennings (2017, 14) also argues that in order to identify globalisation in the past, we should look for evidence of an increased flow of products and people, accompanied by cultural changes; long-distance trade and interaction on its own is not enough to assert that globalisation has occurred. Therefore, the levels of connectivity indicated by trade networks developing across the sixth and seventh centuries cannot alone be considered evidence of a 'globalised' Europe. The shared funerary customs which had developed by the end of the eighth century, can, however. Globalisation is something which affected the region now known as Europe periodically over the course of past millennia, waxing and waning, and taking on different characterisations throughout history (Pitts 2017, 505).

Another important facet of globalisation is the increasing emphasis placed on local variability in contrast to global shared practices, a somewhat paradoxical contradiction (Hodos 2017, 5). Local trends are re-asserted as a reaction against the homogenisation which can occur as part of globalisation (Jennings 2017, 15). Even though we see a trend towards globalisation in the adoption of shared burial practices across large areas, there are many other aspects of culture which do not become globalised. Not least, there were many different aspects of the funerary

ritual besides the deposition of grave goods, involving different kinds of funerary furniture, and different rituals surrounding the burial, many of which are archaeologically invisible, and we have little idea how this may have varied between regions. This variability does not mean that individuals do not identify themselves as part of one group, however (Hodos 2017, 5). There is little sense that the people who shared these burial practices considered themselves 'European'. The term *Europa* was used in the Roman Empire, but to refer to an eastern province, not related to the area of study in question, and the Romans certainly did not consider themselves 'European' (Pocock 2002, 59-60). Perhaps a more appropriate term in use during the early middle ages would be Christendom, a term which was coined in the fifth century by Pope Leo the Great (Pagden 2002, 43). Although not referring solely to the area in question, and extending in its reach beyond modern-day Europe, the use of such a term indicates that there were those who saw themselves as belonging to a geographically extended cultural group. It is important to note that cultural similarities never led to political unity (Anderson 1991, 40). Though the extent to which this was a term in common usage is questionable, the standardised burial rites which existed across the region indicate that there was a point of cultural similarity which would have allowed identification with a larger group, one that spanned much of the continent of modern-day Europe.

Connectivity was always present to some degree, but only certain historical periods became so interconnected that they could be described as 'globalised' (Pitts and Versluys 2014, 17). The Roman Empire can be seen as an earlier 'globalised' period, one of great connectivity, and one of the great debates surrounding the emergence of the early medieval world was the extent to which those Roman networks, both trade and cultural, survived. The changes seen in the seventh century can be seen as a re-emergence of that globalised network, building upon, and made possible by, the foundations of connectivity left by the Roman Empire, but taking on its own form. The role of Christianity as a second, globalising force of the early medieval period will be returned to in Chapter 5.

3. Regional Studies

Within the broad trends identified in the previous chapter, there was likely to have been local and regional variability, as well as unique individual experiences which coalesced to create the large-scale changes observed (Sherratt 2011, 1). I will therefore now focus on specific areas (fig. 47), to examine the nature of intra-regional variability, and the extent to which local trends follow or diverge from the broader trends already identified. Chapter 4 will then take individual cemeteries from within those regions, in order to understand the local communities who made collective and individual decisions about the burial of the dead. By taking such a regional approach, I will demonstrate how decisions made at the individual level can collectively create wide-scale societal change.

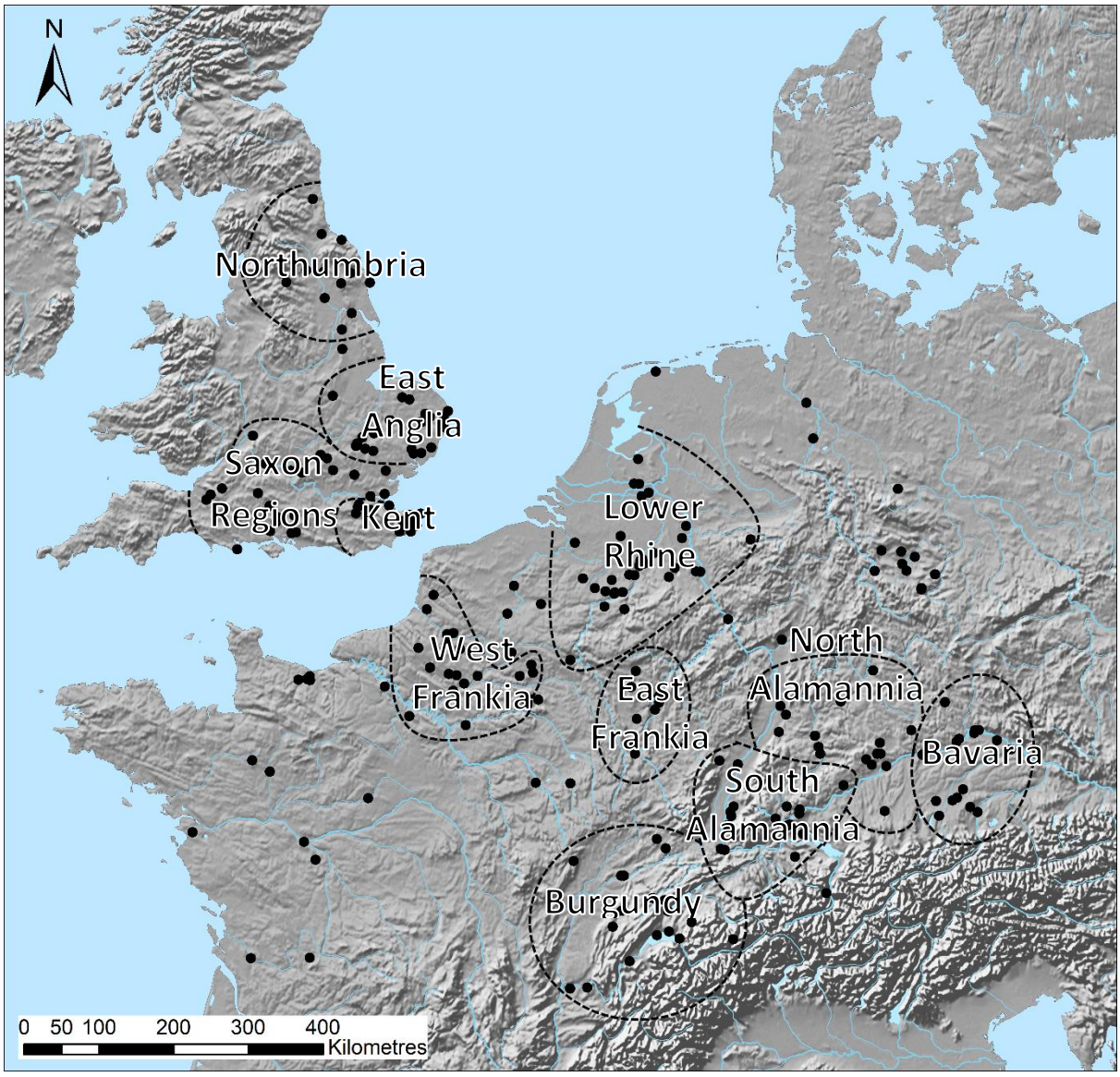

Figure 47: Regions used in statistical analysis

I identified the eleven regions for closer analysis on the basis of visual inspection of the maps shown in Chapter 2, alongside knowledge of existing cultural and historical boundaries. England was divided into Kent, Northumbria, Anglian, and Saxon regions, with the exact boundaries based on the subdivisions used by Hines and Bayliss (Hines & Bayliss 2013, 424). They did not separate Northumbria from other culturally 'Anglian' regions, but I felt that this was an important distinction to make.

On the continent, the regions identified include the Lower Rhine, which corresponds partially to the historical kingdom of Austrasia. This is one of the largest regions, and includes not only cemeteries on the River Rhine, but also cemeteries along the River Meuse, as well as the coastal regions of the Low Countries. 'The Lower Rhine region' therefore refers to this entire area. Although there is diversity in practice across this region, these multiple different environments were considered together as the analysis of chapter 2 showed that they shared many characteristics, and together formed a distinct cluster.

There was also a cluster of cemeteries in northern France, within the historical region of Neustria, and a smaller group in north-central France, just south of the Luxembourg border. The latter is the region of Metz which has been the subject of much study by Halsall. The other regions analysed were Burgundy, including cemeteries in eastern France and western Switzerland, Bavaria, and Alamannia. Alamannia is a large region, and preliminary analysis using a Kruskal Wallis H test suggested a difference in practice between the north and south of the region (see appendix 2.1.1.); because of this, Alamannia was divided into a northern and a southern group.

An additional cluster of cemeteries was present in Thuringia, and there were multiple dispersed cemeteries across Saxony, Normandy, and further south in France. The cluster in Thuringia, was distinct, separated from the cemeteries of the Lower Rhine by a region of unfurnished burial (Clay 2016, 390). These were not analysed in further detail; Thuringia was excluded because the limited chronological work in this region meant that the dating of these cemeteries was questionable, and the more dispersed ones could not be treated as one group, as there were too few for rigorous statistical analysis, and they covered too wide a geographical area to be meaningfully grouped together.

While some of these groups had clear boundaries between them, others did not, suggesting that there were not hard and fast boundaries between areas with different funerary practices, but areas of overlap, where customs from neighbouring regions were adopted simultaneously. Between the Lower Rhine, and the Alamannic region, for example, very few cemeteries have

been published, resulting in what appears to be a clear distinction on the maps. The sites of Rübenach and Eschborn do fall into this gap, however, and, grave good provision in these cemeteries was sometimes more similar to Alamannian practice, sometimes to the Lower Rhine, and sometimes were like neither. There also appears to have been a gradual transition between practice in the Lower Rhine and West Frankia; Saint Marcel, Goudelancourt-les-Pierrespont, Tournai, Ciply, and Hordain all fell into this transitional zone. The former two were included in the statistical analysis of West Frankia, while the latter three were excluded as they fit clearly into neither group. Distinguishing the boundary between Alamannia and Bavaria was harder. For some categories of objects there was a clear difference between them, while for others there was not. The differences between Alamannia and Bavaria seemed starkest in the sixth century, while during the seventh they appeared more similar than different. The regions identified should therefore not be taken as historical reality, but as an analytical tool, albeit one which is based in reality. Appendix 1.1 provides a list of the exact cemeteries assigned to each region.

3.1. Methods of Analysis

With the exception of the use of the Getis-Ord Gi*, the GIS analysis of Chapter 2 was mostly a qualitative tool. The following analysis will be more quantitative. I have favoured simple techniques of statistical analysis over more complex methods, such as cluster analysis and factor analysis. This is because the latter are often harder to interpret, and can produce results which have little meaning in reality (McHugh 1999, 62, 85). The full range of statistical tests used, and how the results were interpreted, is described in Appendix 2.1.

The following sections will discuss each of the regions, looking first at the areas of highest grave good use in southern Germany, in the regions of Alamannia and Bavaria, then the areas of lowest grave good use in West Frankia and Burgundy, south of the dividing line identified in Chapter 2. I then analyse the Lower Rhine and Eastern Frankia together, before looking across the English Channel at Kent, and then the rest of Anglo-Saxon England. The chronological span of different types of cemeteries in these regions was considered first, followed by the statistical analysis. I first compared the overall average number of objects per grave against the approximate year a cemetery went out of use, in order to assess the overall tendency towards lower grave good deposition over time, by plotting on scatter graphs, and assessing this using a Spearman's Rho correlation. This was followed by a comparison of the range of grave good use within each cemetery. If there was a steady decrease in grave good deposition over time, then cemeteries which continued to be used later should have a lower average number of objects, as they will contain a higher proportion of later, unfurnished

graves. This approach has some drawbacks; all of the graves from one cemetery were labelled with the same date, which in many cases would have been later than the actual date of each grave. This diluted the effect of date on grave good deposition, meaning that the r_s-value produced by Spearman's Who will have been artificially lowered. Yet this is unavoidable if we want to make use of the large numbers of undated graves. In most cases, this test was performed twice; once using all of the cemeteries from a region, and once using only the sixth- to seventh-century cemeteries. This means that we can investigate the extent of change leading up to the abandonment of furnished burial, as well as the overall trends from the sixth to eighth centuries.

The same approach was taken for each type of object within the cemeteries (using the categories outlined in chapter 2.1.3), with the overall trends displayed in aggregate in a bar chart[1], the statistical significance having been tested using a Kendall's Tau-b test, and the most interesting changes displayed in scatter graph form, whether that was those objects which remained consistently used while all others decreased, or vice versa. The results of the statistical tests for those trends are provided with the graphs, while the results of the full range of statistical tests carried out are reported in Appendix 2.2.2. This approach allows the differences between regions illustrated in Chapter 2 to be explored in more detail, as well as exploring the levels of variation within regions, something which the large-scale mapping approach smooths over.

A quantitative approach could be critiqued as reducing complex social phenomena to mere numbers (McHugh 1999, 62). The requirement for a large sample from multiple sites in order to achieve statistical validity can also mask small-scale local variations (Haughton 2018, 1). However, statistics provide a useful tool for highlighting patterns of practice which have potential social meaning. These statistical techniques are not an end in themselves, but are a tool to reveal patterns which can be interpreted using theoretical and historical models (McHugh 1999, 62-63). We should not expect to see strict rules governing burial, as they were also governed by personal choices and individual circumstances, but we should expect

[1] [1] The extent of the decreases seen both in overall numbers and the types of grave goods was to some extent dependent on how common an object was to begin with. Therefore the proportional change graphs show change relative to the levels of grave good use in place initially, using the following equation:

$$Proportional\ change = \frac{Gradient\ of\ line\ of\ best\ fit}{Total\ \%\ of\ graves\ containing\ that\ object\ type}$$

Given that all object types decreased to almost nothing by the mid eighth century at the latest, the following statistic was only calculated for the cemeteries which were in use before that point, throughout the sixth, seventh, and early eighth centuries. This method tends to overinflate the scale of change for very rare objects, and is intended for illustrative purposes only.

to see some trends in practice which relate to broader societal norms (Williams 2006, 61-62). Thus by studying these trends, we can access societal concepts of cultural practice.

3.2. Regions of High Grave Good Use: Southern Germany

Some of the highest concentrations of grave good use were seen in southern Germany, particularly in Northern Alamannia. Fig. 48, fig. 49, and fig. 50 show the cemeteries from Alamannia and Bavaria and their periods of use, giving an overall indication of cemetery usage and their level of furnishing.

The majority of sites in these areas dated to the sixth and seventh centuries. Very few cemeteries could be dated to the eighth century or later, only one in each of the three regions. There were a few cemeteries which spanned both the seventh and eighth centuries, but these were all relatively small church cemeteries. The cemetery at Mels, for example, contained only 39 burials interred between the mid sixth and late tenth century; approximately one burial every twelve years. Burial at these sites must therefore have been a rare event, and church burial was a high status rite not available to the majority of the population. There was in most instances a clear separation between the cemeteries used prior to the eighth century, and those which were used in the eighth century or later.

Most furnished cemeteries were abandoned towards the end of the seventh and start of the eighth century. In Southern Alamannia most cemeteries went out of use between 700 and 720, with very few earlier or later abandonments. In Northern Alamannia, it was a more drawn out process, with the period of abandonment lasting from 680 to 740. In Bavaria, there was more of a pattern of cemeteries continuously going out of and coming into use, but similarly few of the earlier, furnished cemeteries continued to be used beyond 720.

The lifespans of cemeteries in these regions also varied. Across Alamannia, and to some extent Bavaria, there was a mixture of long-lived and short-lived cemeteries, with many of the short-lived cemeteries dating to the seventh century. This should not be confused with a ‘final-phase’ similar to that identified in England, as many of these cemeteries were still comparatively well-furnished. Only in Bavaria was there a group of cemeteries which could be considered similar to ‘final-phase’ sites: Epolding-Mühlthal, Lauterhofen, and Neuburg an der Donau, all in use from the mid seventh to early eighth century. The majority of graves in Neuburg an der Donau were unfurnished, but the former two sites did not have noticeably lower levels of grave good use than earlier sites, unlike the English ‘final-phase’ cemeteries.

The churches within southern Germany were mostly concentrated in the far south. Those found in northern Alamannia were only found from the mid seventh century onwards, but in other areas, they were less chronologically constrained, and a few churches were used during the sixth century as well. The presence of cemeteries with associated churches has most likely

been underestimated here, as there were many seventh-century churches with a small number of furnished burials, below the threshold for this study; Pfullingen (Quast 1994) and Aldingen (Scholkmann, 1981), contained six and eight furnished graves respectively, and Böhme (1993) lists many more examples. These churches were not included here because of their small size, but it is important to note their existence. Many of the churches also contained a few richly furnished, seventh-century graves. Clearly church burial and grave good deposition were not mutually exclusive; the lack of furnished burials in the majority of churches is probably more to do with the fact that most churches started to be used in the late seventh century or later, and so do not overlap much with the period when furnished burial was most common.

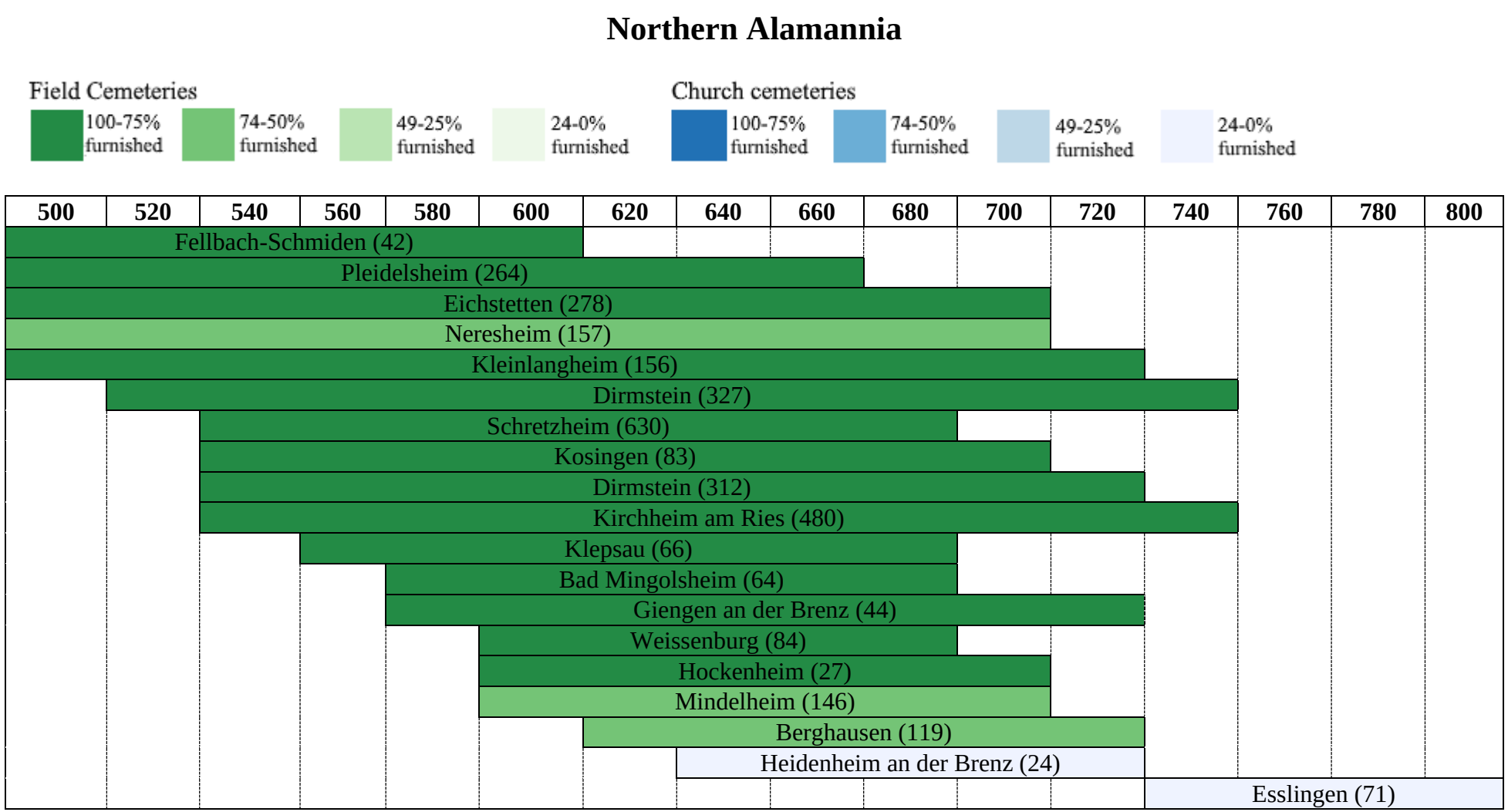

Figure 48: The lifespans of cemeteries in northern Alamannia. Number of graves in brackets

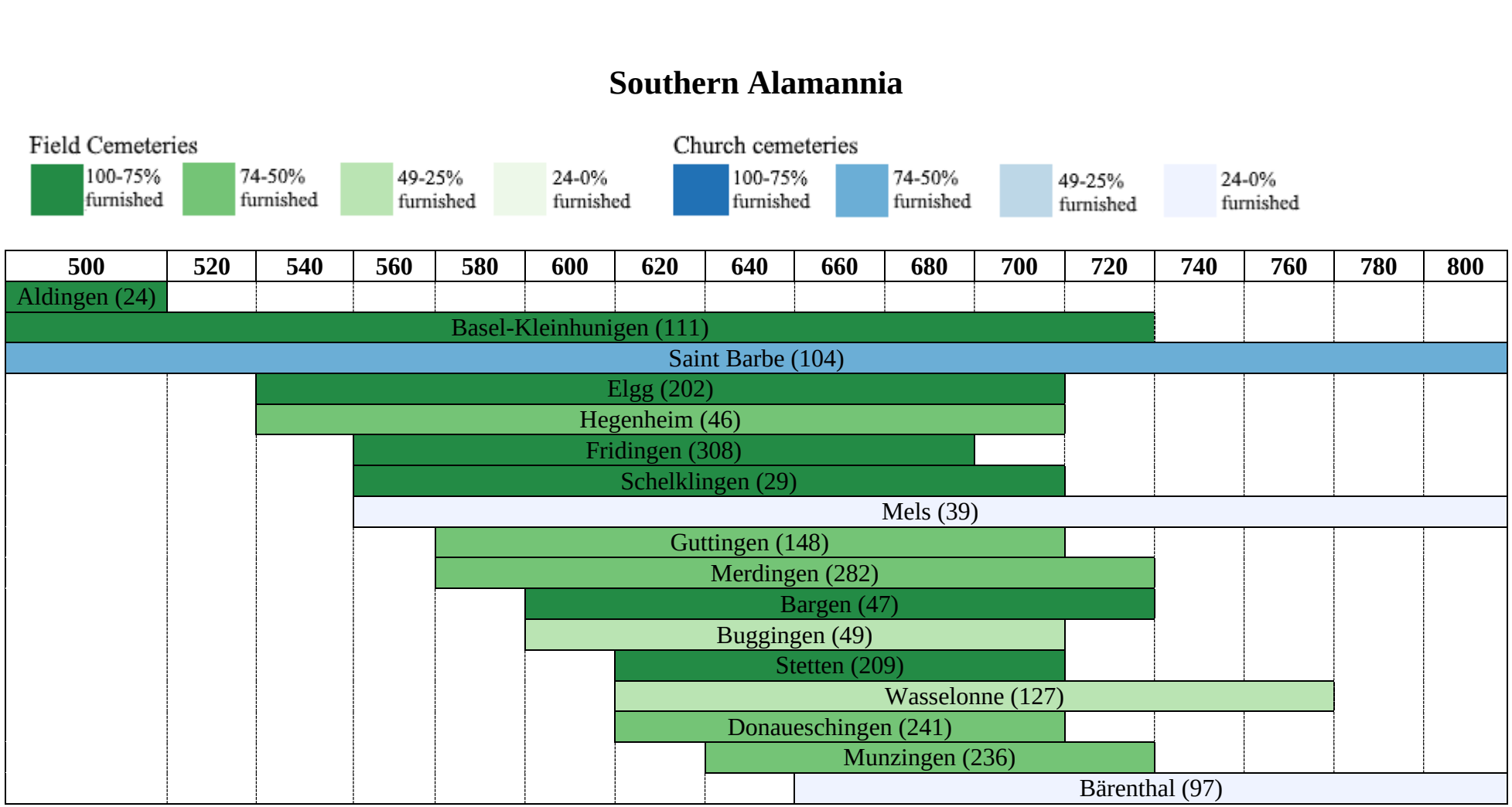

Figure 49: The lifespans of cemeteries in southern Alamannia. Number of graves in brackets

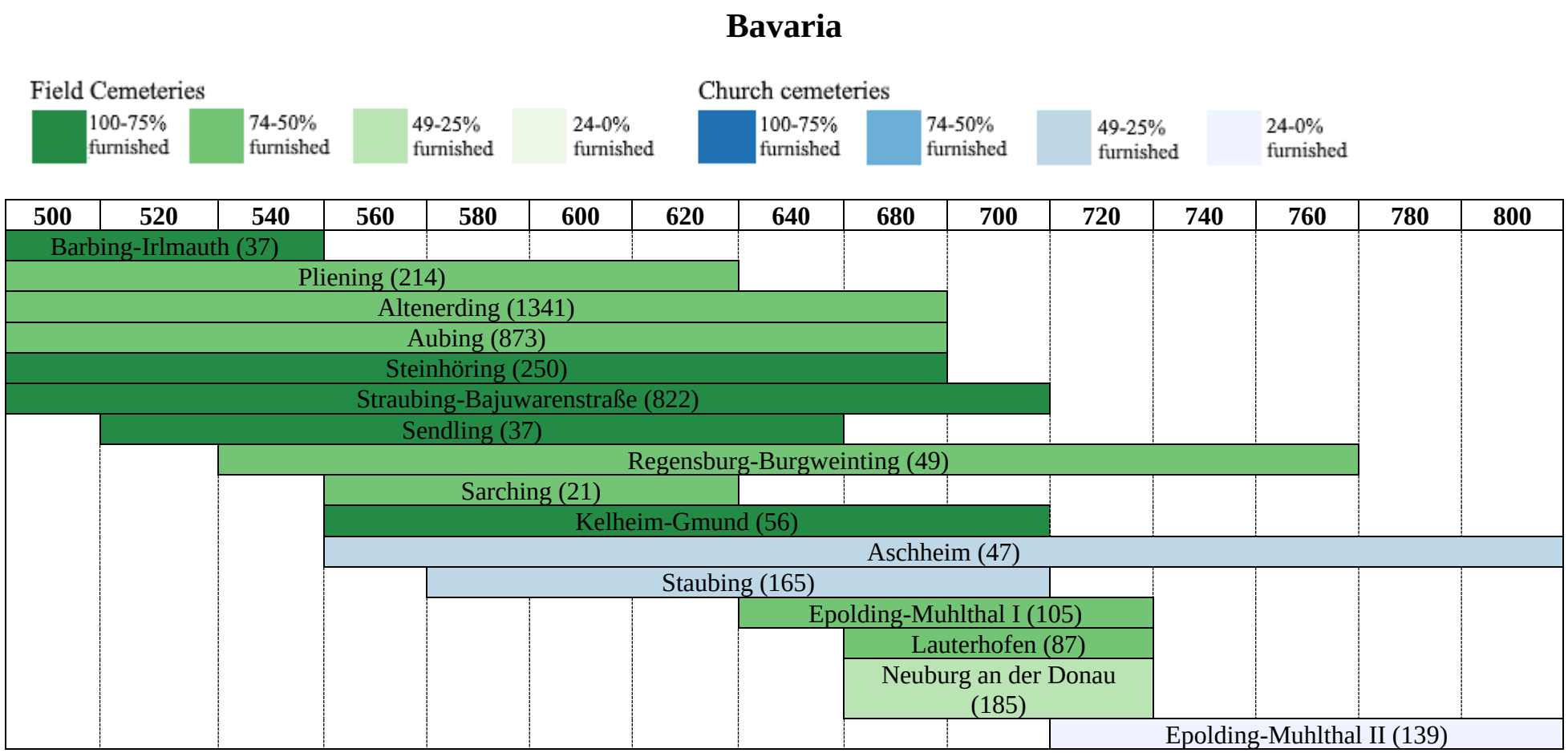

Figure 50: The lifespans of cemeteries in Bavaria. Number of graves in brackets

3.2.1. Numbers of Grave Goods

Across the entire region of Alamannia, there was a statistically significant decrease in the number of grave goods used over time. The cemeteries in northern Alamannia tended to have richer burials than those of southern Alamannia, but in both instances, poorly furnished cemeteries were only found in the late seventh century or later. There were still richly furnished cemeteries which continued to be used until the early eighth century, but these were joined by new, more poorly furnished ones. At the same time, both regions saw a similar increase in the proportion of unfurnished burials in their cemeteries (fig. 51, fig. 53).

These two regions also saw some of the greatest variation between cemeteries in terms of the spread of grave good numbers (fig. 52, fig. 54). In southern Alamannia, there was a clear later group in which the range of acceptable grave good deposition was lower than in earlier sites[2]. While there was not such a clear chronological distinction in northern Alamannian cemeteries, they still varied considerably.

Bavarian cemeteries were slightly different. There was a statistically significant decrease in the average number of objects over time, but this was a far weaker trend than for the Alamannian cemeteries. All the sixth- to seventh-century cemeteries had an average number of objects between 1.4 and 2.4 per grave, which was lower than the Alamannian cemeteries and far less variable (fig. 55, fig. 56). This suggests that Bavarian practice was not only static over time, but relatively uniform among the cemeteries studied. Fig. 65 shows that there were richer cemeteries in the region[3], located along the River Danube, but those sites were not included in the statistical analysis, due to a lack of reliable dating evidence. The cemeteries which were located around Munich, all had consistently lower levels of furnishing, similar to the poorer cemeteries along the River Danube.

More obvious was the increase in unfurnished burial in Bavaria over the same period. This potentially suggests that while the numbers of unfurnished burials increased, those burials which remained furnished in fact became slightly richer, thus accounting for the very low levels of change in the average numbers.

[2] Merdingen, Munzingen, Wassellone, Saint Barbe, Bärenthal, Mels
[3] Straubing-Bajuwarenstrasse, Kelheim-Gmund, and Barbing-Irlamauth

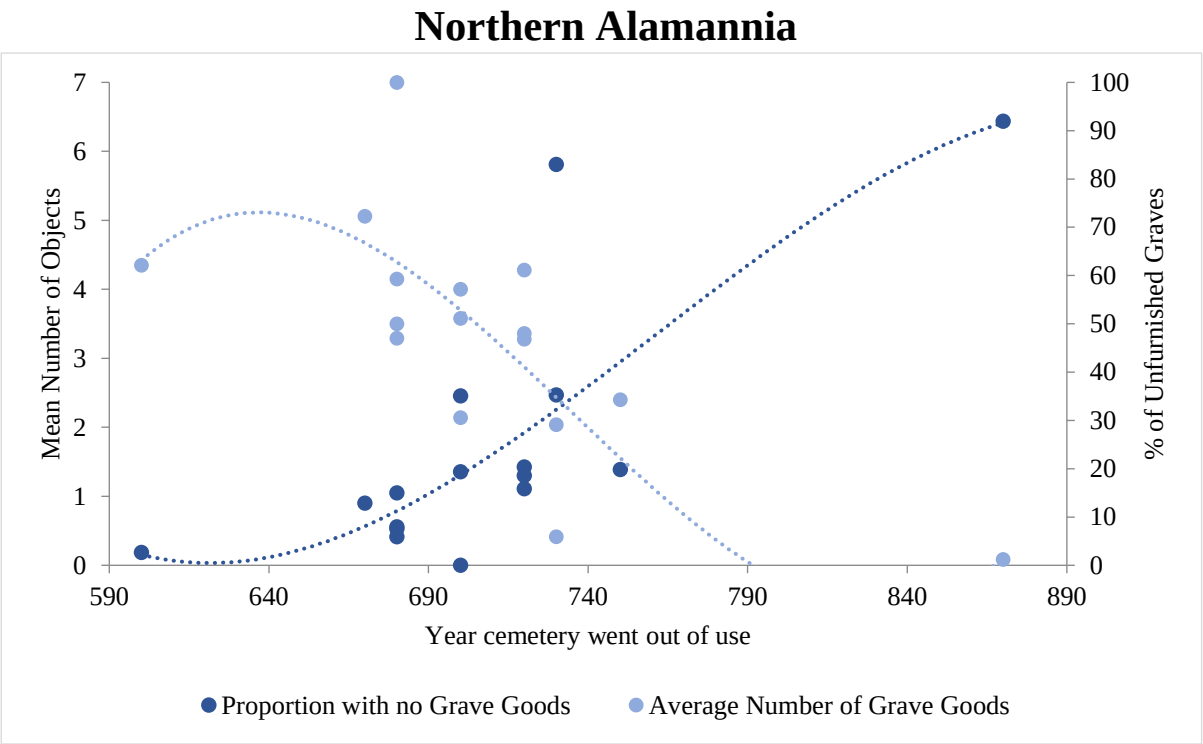

Figure 51: Trends in numbers of objects and unfurnished burials in northern Alamannia. Polynomial trendlines order 3.

	Overall Trend		*Trend during period of furnished burial*	
	R_s-value	*P-value*	*R_s-value*	*P-value*
Number of Objects	*-0.233*	*<0.0005*	*-0.181*	*<0.0005*
Unfurnished Burial	*0.184*	*<0.0005*	*0.118*	*<0.0005*

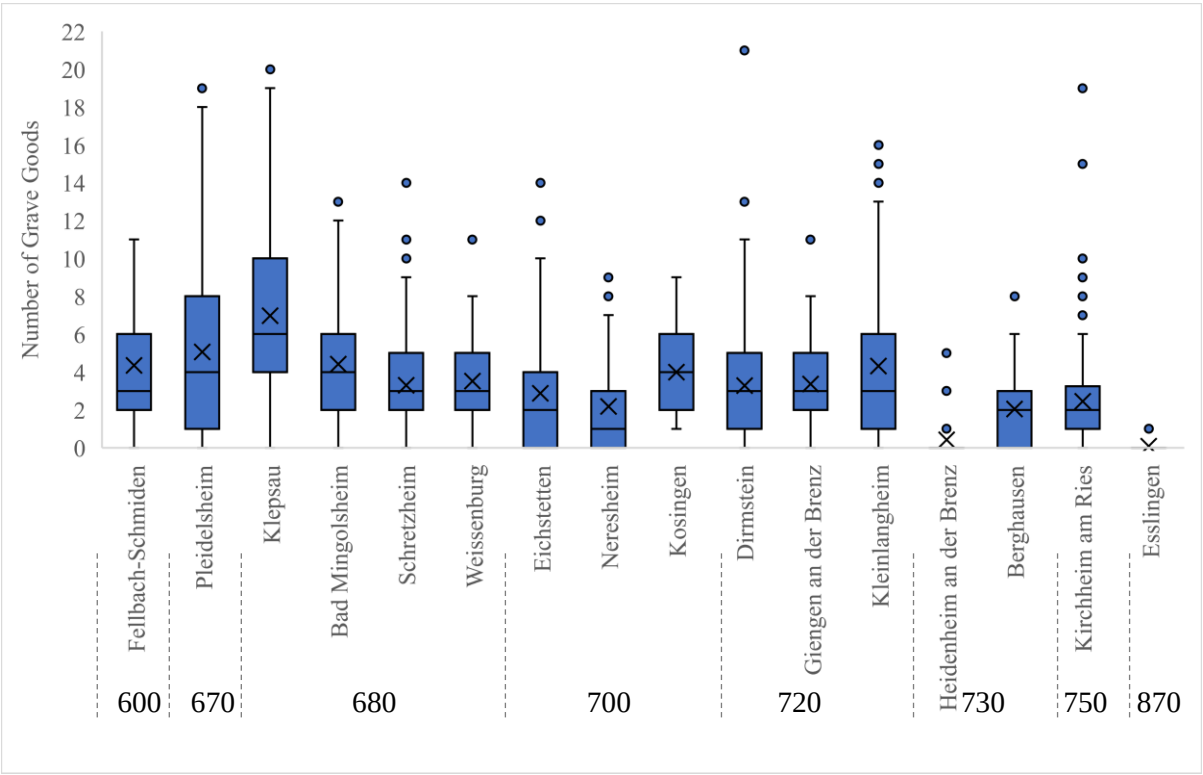

Figure 52: Box plot showing the distribution of grave good use in cemeteries in north Alamannia. Date represents the year a cemetery went out of use

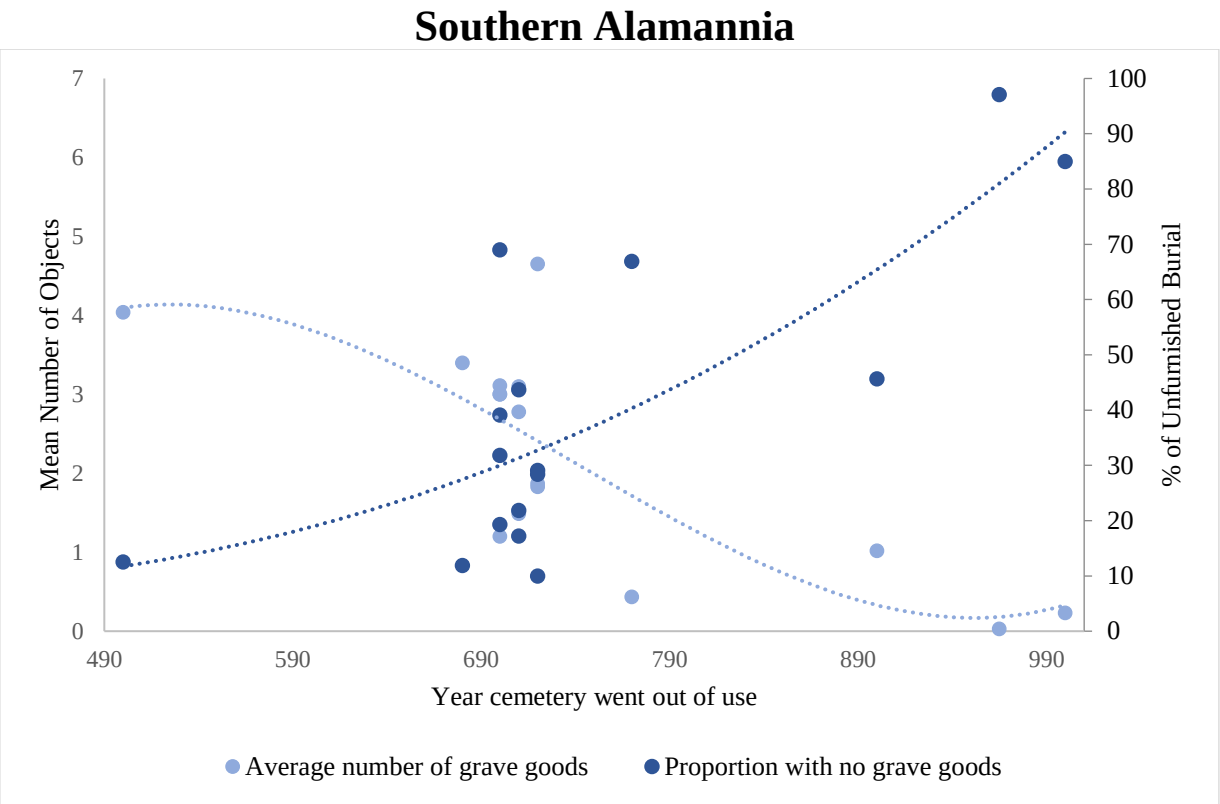

Figure 53: Trends in numbers of objects and unfurnished burials in southern Alamannia. Polynomial trendlines order 3

	Overall Trend		*Trend during period of furnished burial*	
	R_s-value	*P-value*	*R_s-value*	*P-value*
Number of Objects	*-0.302*	*<0.0005*	*-0.201*	*<0.0005*
Unfurnished Burial	*0.197*	*<0.0005*	*0.093*	*<0.0005*

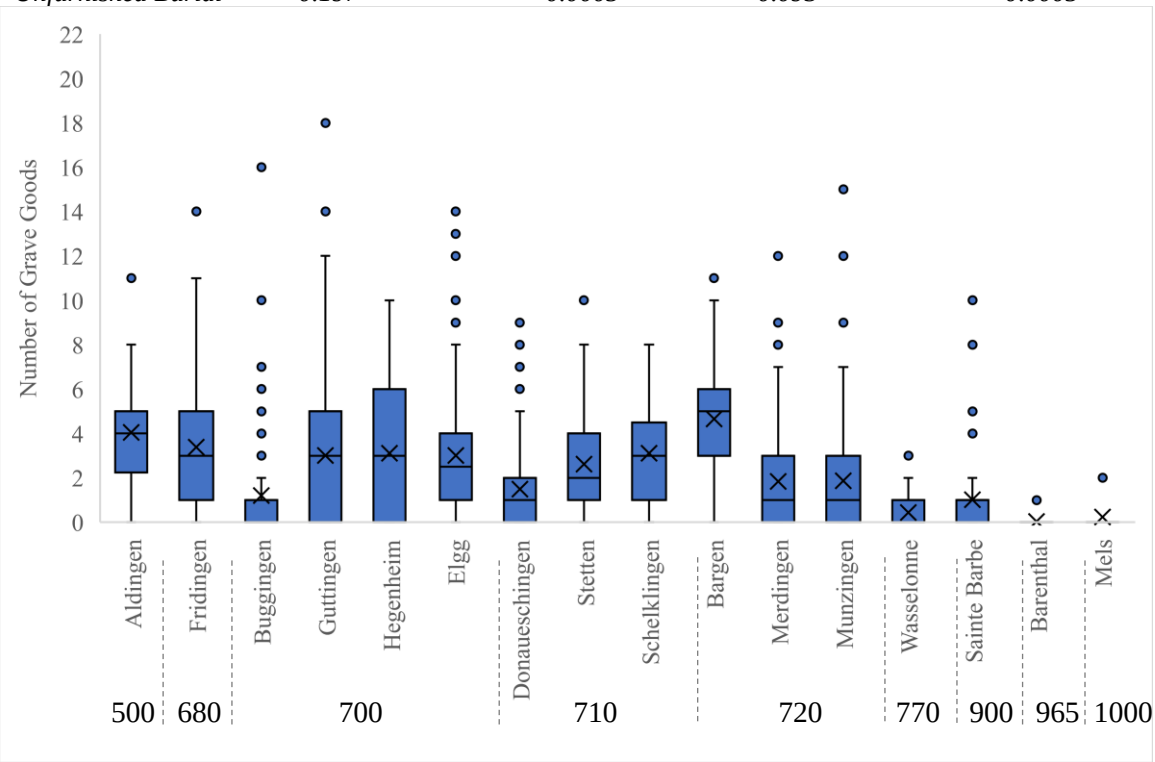

Figure 54: Box plot showing the numbers of grave goods in southern Alamannia cemeteries. Date represents the year a cemetery went out of use

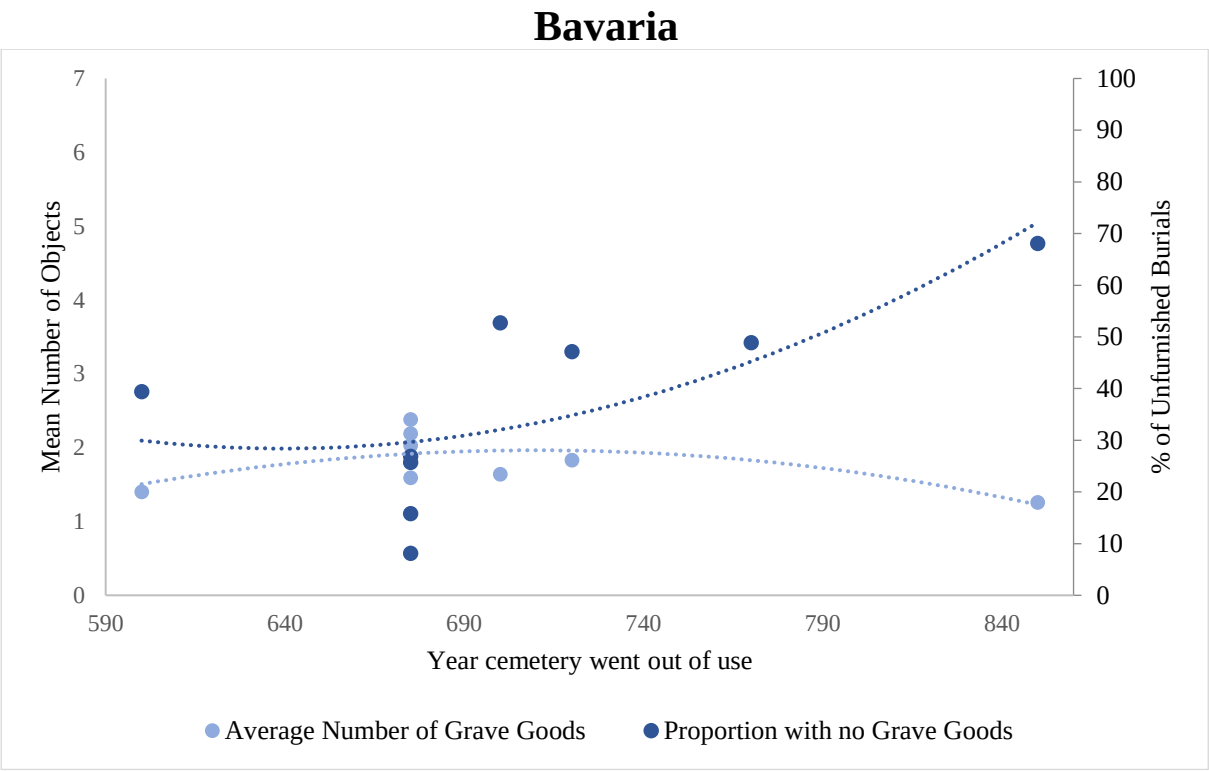

Figure 55: Trends in numbers of objects and unfurnished burials in Bavaria. Polynomial trendline order 2

	Overall Trend	
	R_s-value	*P-value*
Number of Objects	*-0.051*	*0.008*
Unfurnished Burial	*0.126*	*<0.0005*

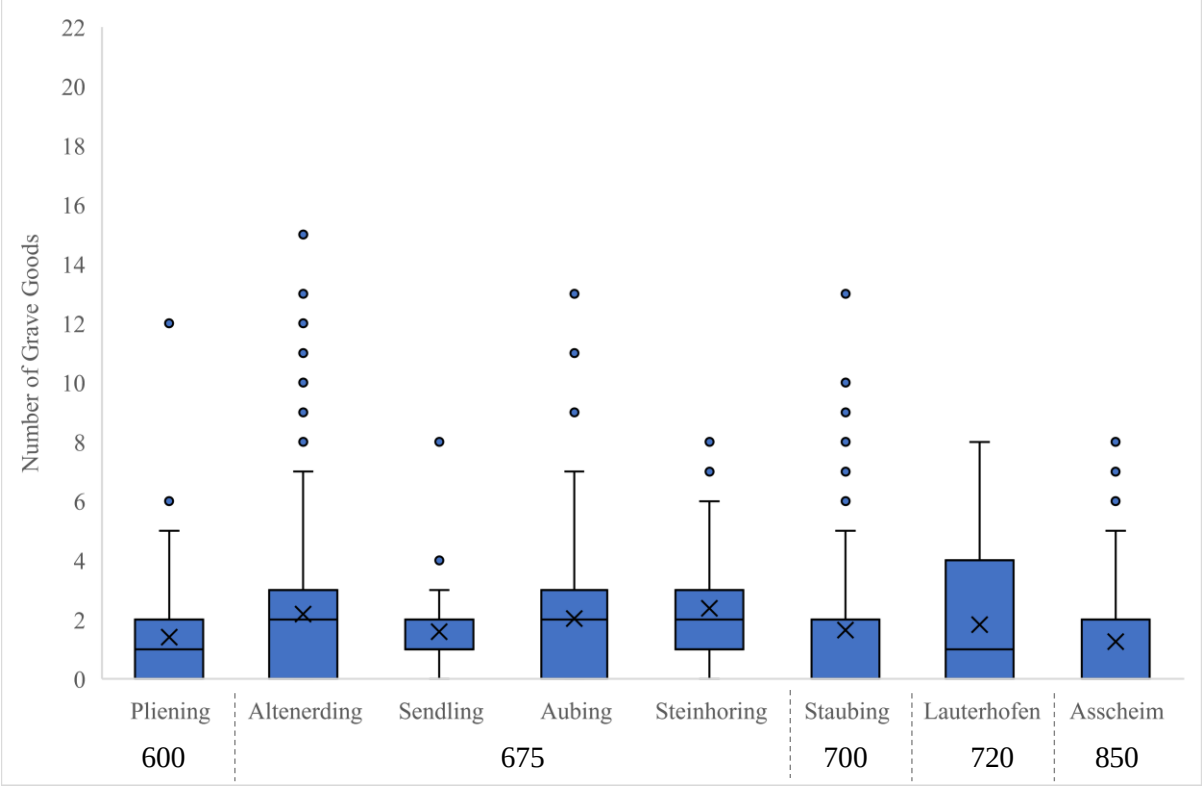

Figure 56: Box plot showing the number of grave goods in Bavarian cemeteries. Date represents the year a cemetery went out of use

3.2.2. Types of Grave Goods

Most types of grave good also showed statistically significant decreases across Alamannia (fig. 57, fig. 59). There were some differences between the northern and southern regions of Alamannia; in the northern region, only personal accessories (fig. 58) and animal remains were deposited at consistent levels in graves across the sixth to seventh centuries. Animal remains were a relatively rare category of object, but the persistent use of personal accessories, one of the most common types of objects found in Alamannic graves, is more interesting. In the southern part of Alamannia, the trends were slightly different; personal accessories did become less commonly deposited later (fig. 60), along with every object category except jewellery (fig. 61), vessels (fig. 62) and amulets. Again, amulets were only rarely used in graves; that they remained used at constant levels is therefore unsurprising, but the continued use of common objects like vessels and jewellery suggests real differences in the significance that these objects had in the funerary rituals of those different areas.

In Bavaria, there were far fewer changes in the assemblages of objects used in graves. Rarer objects such as animal remains, coins, cosmetics, and tools, remained used at low levels, but more common objects, such as personal accessories and vessels also showed no significant decrease. The only statistically significant changes which did occur, in dress accessories, jewellery, and weapons, were miniscule compared to those seen in Alamannia (fig. 63). The only proportionally large change was an increase in the use of amulets in graves. This was not a large change in absolute terms, from no amulets in the sixth-century cemetery of Pliening, to being found in 2.1% of graves in the seventh- to eighth-century cemetery of Aschheim (fig. 64). This is not unexpected, given the context of increasingly obvious religious display in the seventh century. Bavaria was one of the regions, that, at the largest level, showed late continued use of amulets; given that two different methodologies provide the same results, this is likely to be an accurate representation of past trends.

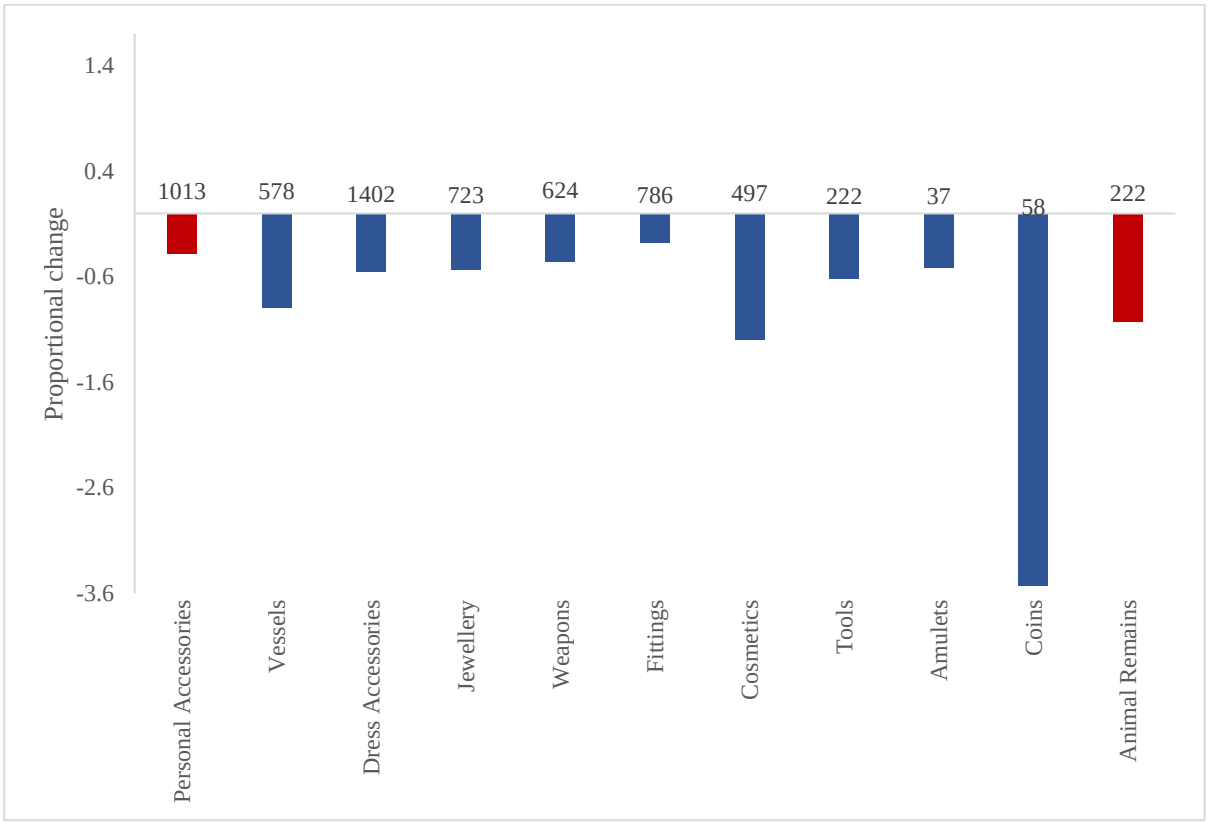

Figure 57: Proportional changes in different types of grave goods in the cemeteries in northern Alamannia between 600 and 750. Red = not statistically significant. Numbers indicate the total number of graves in that region containing those objects

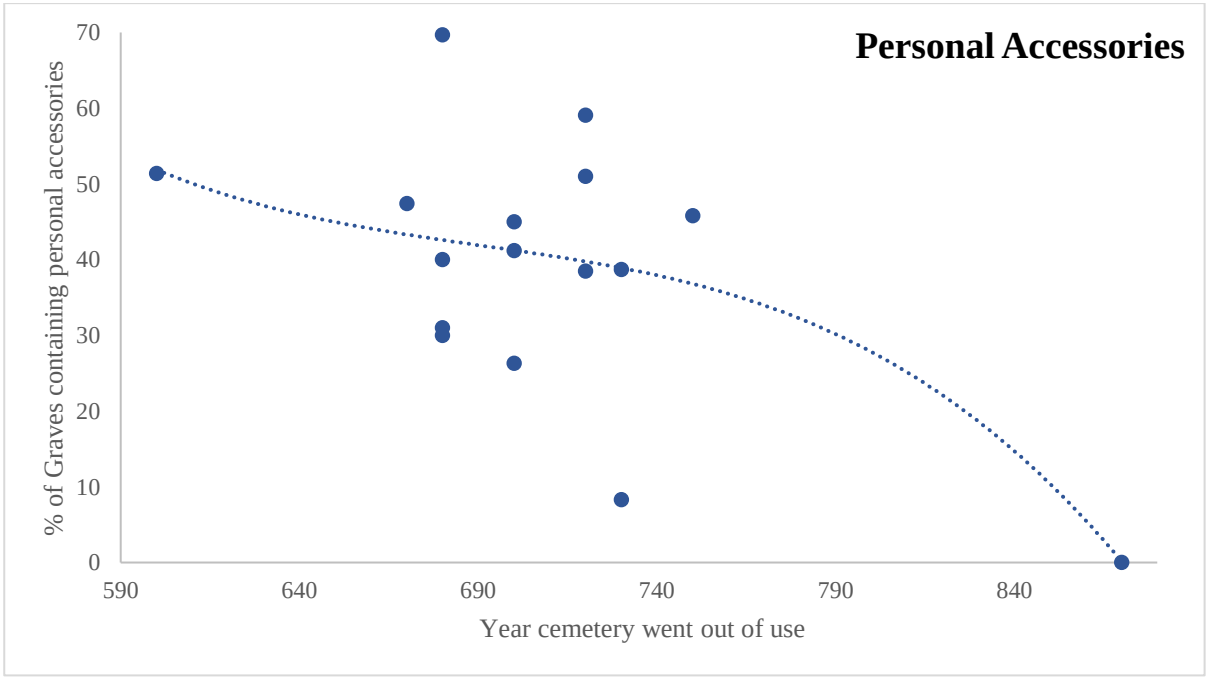

Figure 58: Trends in the use of personal accessories in northern Alamannia. Polynomial trendline, order 3

Overall Trend		*Trend during period of furnished burial*	
R_s-value	*P-value*	*R_s-value*	*P-value*
-0.029	*0.093*	*0.006*	*0.747*

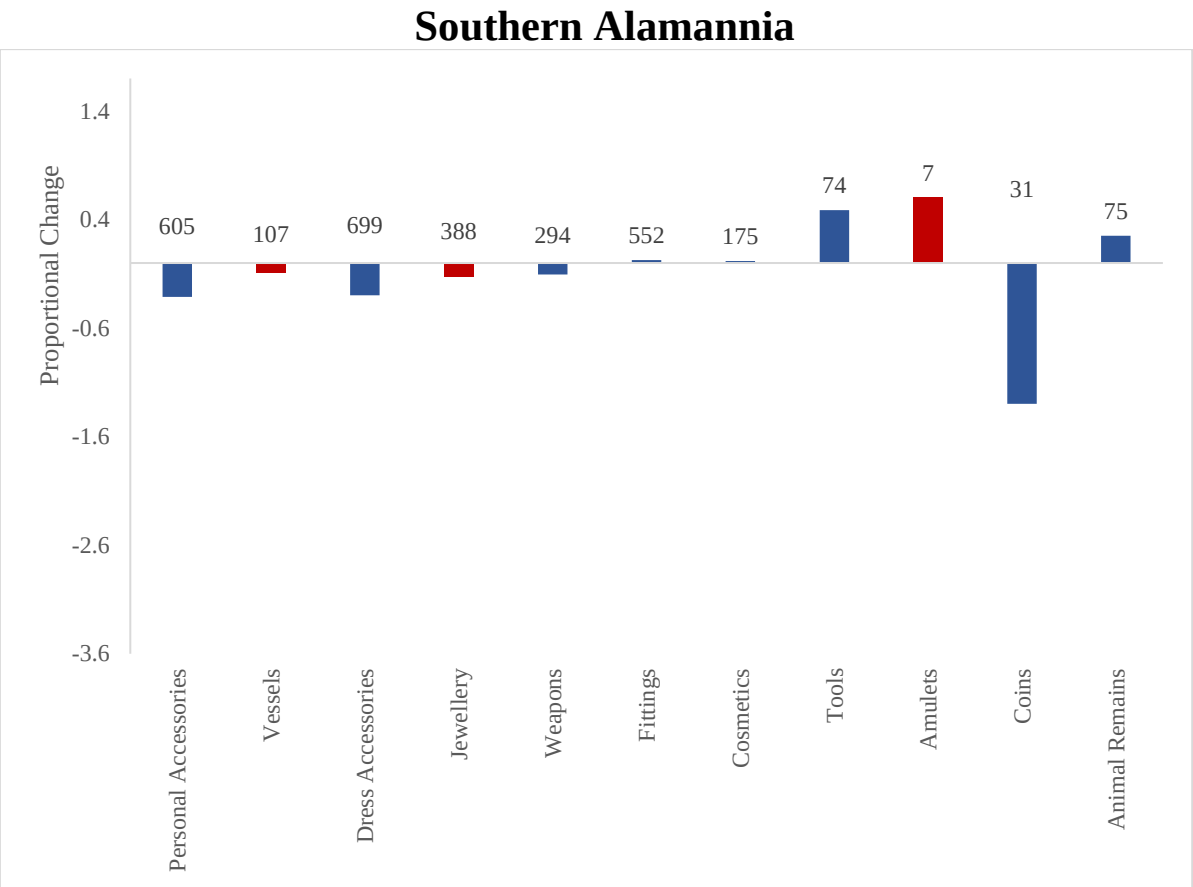

Figure 59: Proportional changes in different types of grave goods in the cemeteries in southern Alamannia between 500 and 720. Red = not statistically significant. Numbers indicate the total number of graves in that region containing those objects

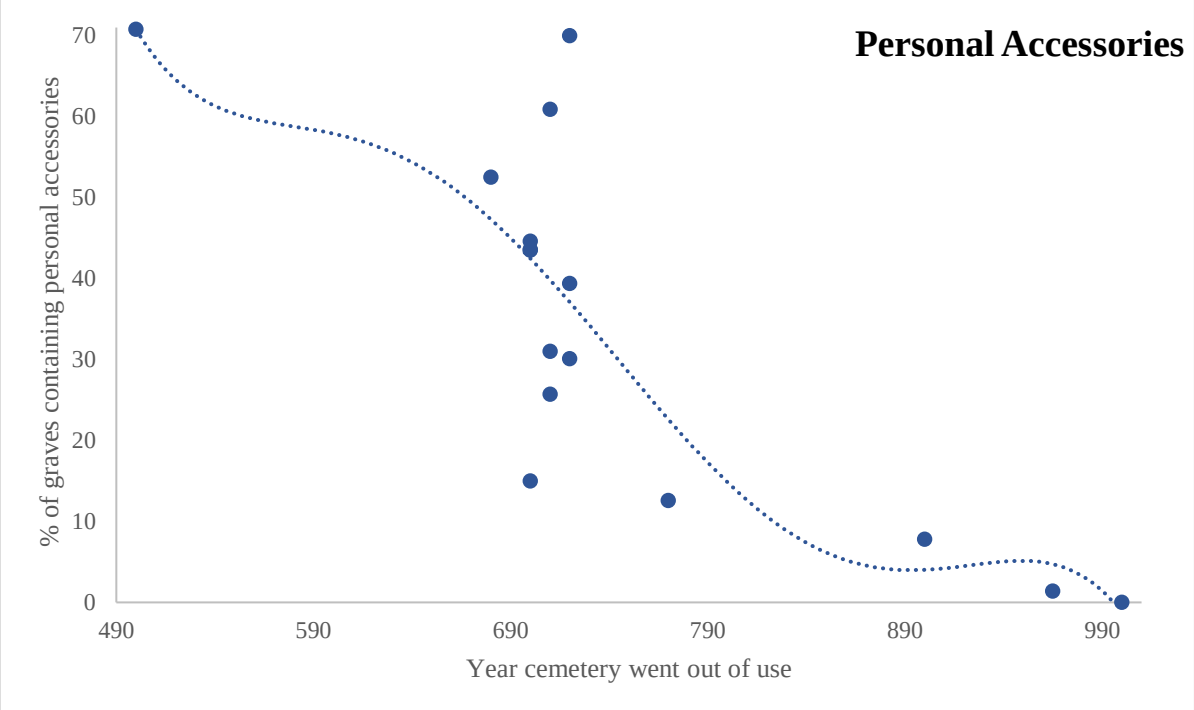

Figure 60: Trends in the use of personal accessories in Southern Alamannia. Polynomial trendline order 5

Overall Trend		*Trend during period of furnished burial*	
R_s-value	*P-value*	*R_s-value*	*P-value*
-0.198	*<0.0005*	*-0.114*	*<0.0005*

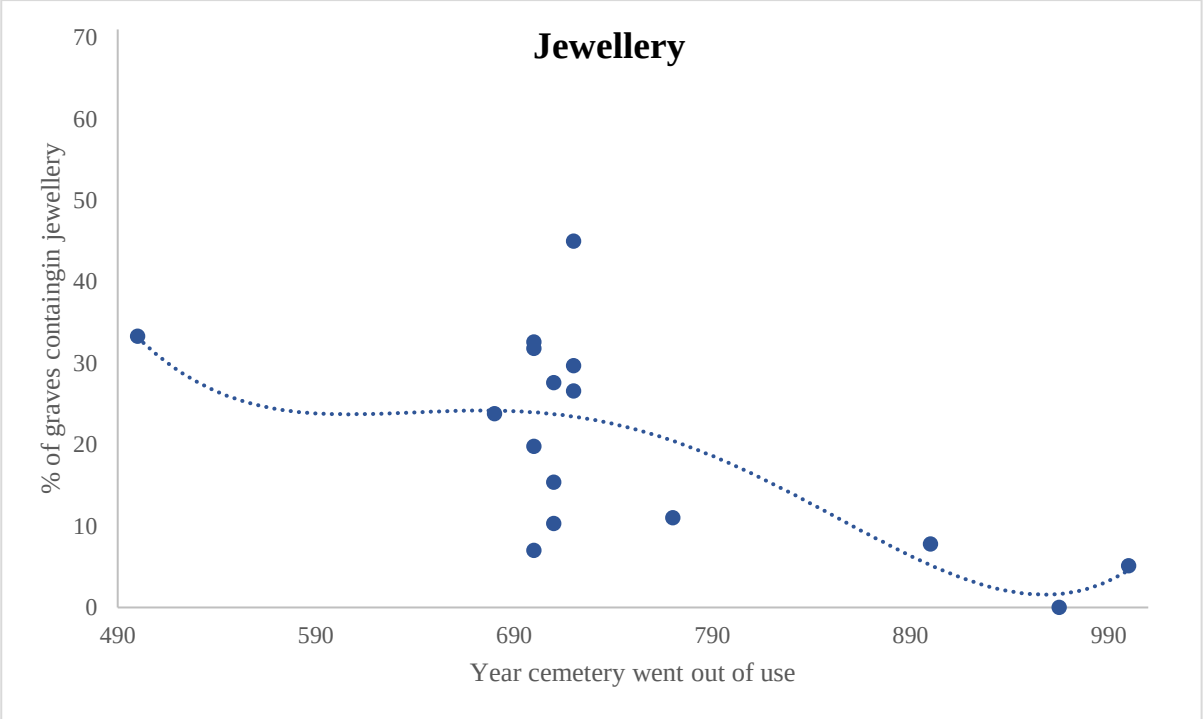

Figure 61: Trends in the use of jewellery in southern Alamannia. Polynomial trendline order 4

Overall Trend		*Trend during period of furnished burial*	
R_s-value	*P-value*	*R_s-value*	*P-value*
-0.074	*<0.0005*	*-0.005*	*0.837*

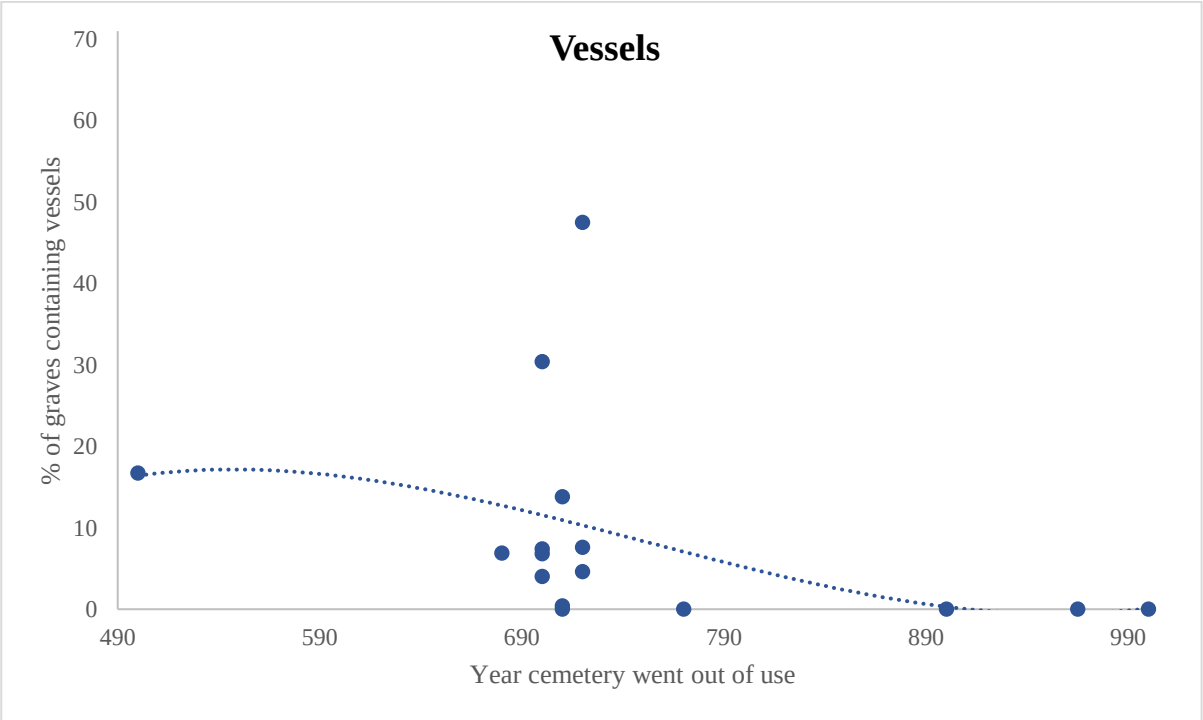

Figure 62: Trends in the use of vessels in southern Alamannia. Polynomial trendline order 2

Overall Trend		*Trend during period of furnished burial*	
R_s-value	*P-value*	*R_s-value*	*P-value*
-0.020	*0.332*	*-0.040*	*0.069*

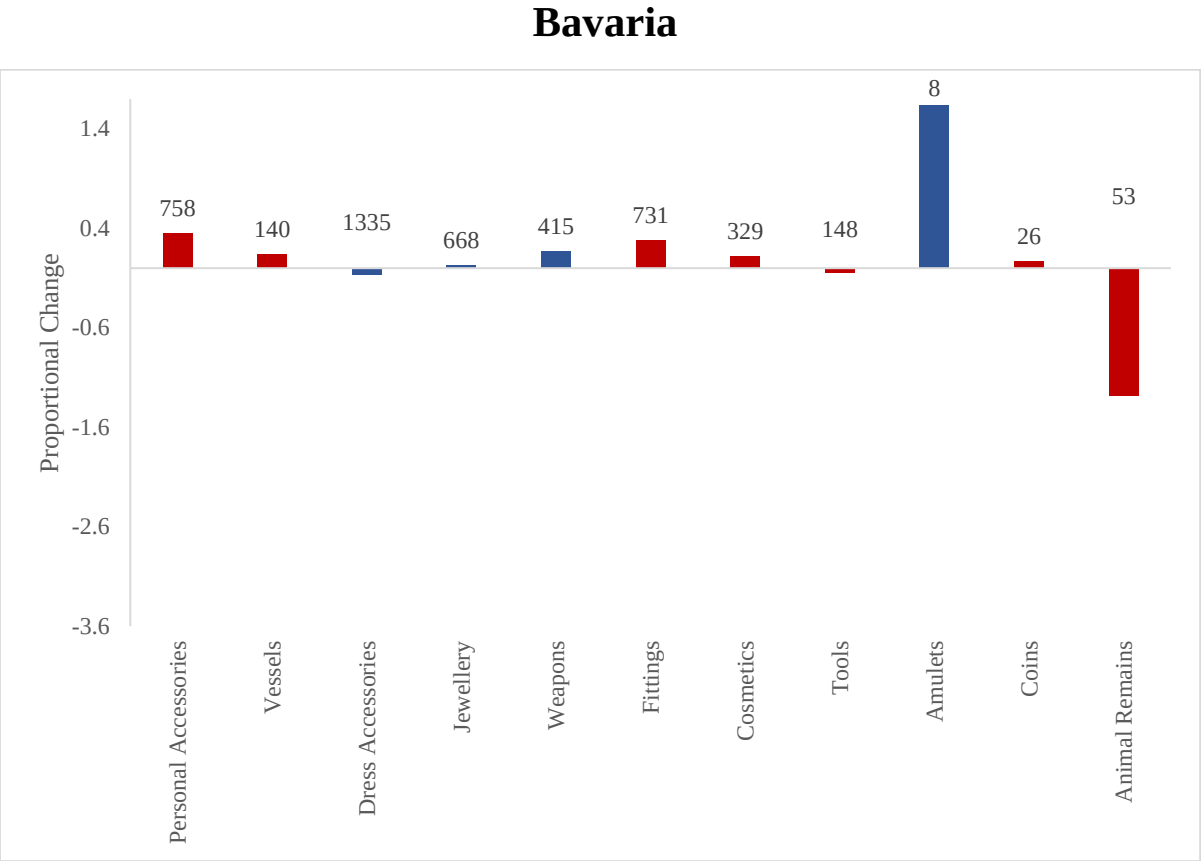

Figure 63: Proportional changes in different types of grave goods in the cemeteries in Bavaria, between 600 and 720. Red = not statistically significant. Numbers indicate the total number of graves in that region containing those objects

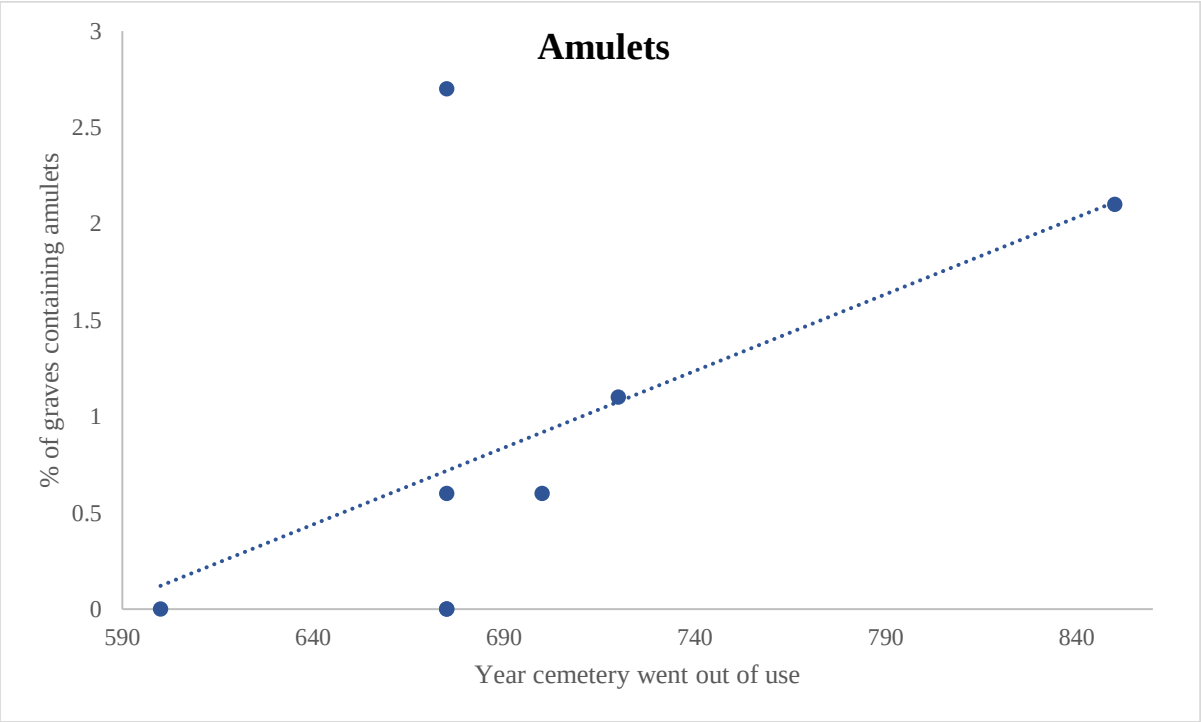

Figure 64: Trends in the use of amulets in Bavaria. Polynomial trendline order 2

Overall Trend	
R_s-value	*P-value*
0.044	*0.019*

3.2.3. Summary

Furnished cemeteries across southern Germany were largely abandoned by the early eighth century at the latest; while a few sites continued to be used beyond this, they were high status church cemeteries, and not representative of how the majority of the population buried their dead.

Despite northern Alamannia having slightly higher average numbers of grave goods than southern Alamannia, the two regions were reasonably similar in how grave good use changed and evolved over time, though with some subtle differences in the way different types of grave goods were used. In both areas, highly furnished cemeteries continued to be used right up until the early eighth century, but those sites were joined by more poorly furnished sites which had not been evident previously. Bavaria, in contrast, did not see a tendency towards more poorly furnished burial later: instead cemeteries were consistently furnished at around the same levels during the seventh and eighth centuries.

What this might suggest is that Bavaria was a more culturally homogenous area than neighbouring Alamannia was, although the sample of cemeteries available from Bavaria was more limited than from Alamannia as some of the richest Bavarian cemeteries did not have good dating evidence available. The fact that these were all located along the Danube suggests the possibility that the river provided a link along which shared norms of funerary practice could spread, so that the Bavarian communities on the Danube had more in common with the Alamannic communities upstream, than they did with other Bavarian cemeteries on the Munich plain. When comparing this with the cemeteries of south Alamannia, those located on, or near, the Danube did tend to be slightly more richly furnished than those on the Rhine (fig. 65). This supports some of the ideas discussed in Chapter 2, that the rivers provided important networks for the exchange of ideas.

It is clear from looking at the way categories of grave goods change, that different objects have different significances in these regions, and the process by which unfurnished burial was adopted was not the same in all places. Northern Alamannia saw a wholesale decrease in almost all types of object. In Bavaria, in contrast, very few objects decreased, in keeping with the fact that there was overall very little change in the numbers of grave goods used in Bavarian cemeteries. Southern Alamannia lay somewhere between the two; a moderate decrease in overall numbers, which was driven primarily by a decrease in dress accessories, personal accessories and weapons. The only object to consistently decrease across these three

areas was dress accessories, although the decrease was very slight in Bavaria, in common with the overall patterns of change of Bavarian grave goods.

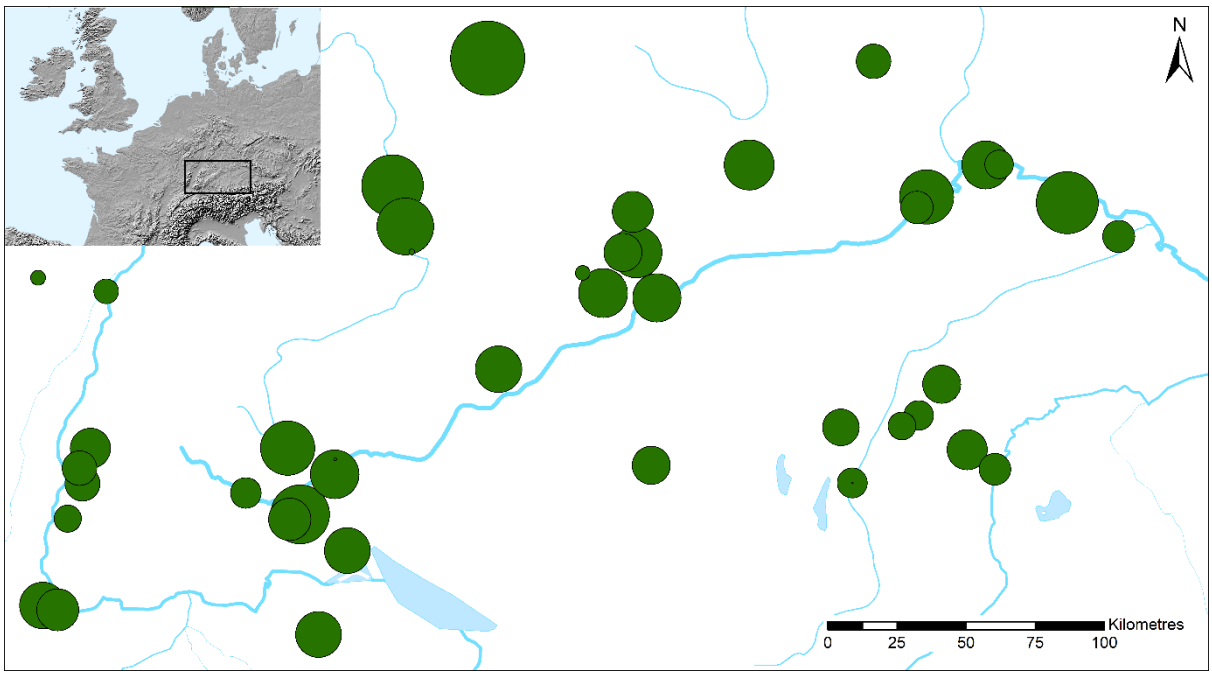

Figure 65: The cemeteries of southern Alamannia and Bavaria. Size of dot is proportional to the average number of grave goods per cemetery

Key Trends in Northern Alamannia

- Furnished cemeteries abandoned by the early eighth century
- Later cemeteries more likely to be poorly furnished
- Decreasing use of almost all object types

Key Trends in Southern Alamannia

- Furnished cemeteries abandoned by the early eighth century
- Later cemeteries more likely to be poorly furnished
- Only decreases in dress accessories, personal accessories, weapons and coins in southern Alamannia

Key Trends in Bavaria

- Furnished cemeteries abandoned by the early eighth century
- Variable levels of furnishing between cemeteries, but no tendency towards poorly furnished burial later
- Only dress accessories decrease in Bavaria

3.3. Regions of Low Grave Good Use: Burgundy and West Frankia

Directly adjacent to one of the regions of Europe with the highest levels of grave good use was a region with one of the lowest, Burgundy. I will consider the cemeteries of Burgundy alongside the cemeteries of West Frankia, as both appear to have fallen outside of the main areas of furnished burial, as shown in Chapter 2. Although these two areas appear quite similar in many respects, there were nevertheless differences between them in the way grave good use changed over time, and in how cemeteries were used. Fig. 66 and fig. 67 show the cemeteries from these two regions. Levels of furnishing of burials in Burgundy were far lower than they were in southern Germany; there were only four cemeteries from this region in which over half of the graves were furnished, found throughout the mid sixth to seventh centuries alongside more poorly furnished sites, and only one approached the highest level of furnishing. In West Frankia, in comparison, cemeteries which were largely unfurnished were in a minority, but they were found consistently throughout the sixth and seventh centuries. Montataire, for example, was in use between 500 and 640, but only 40% of its graves contained objects. Again, only one cemetery fell into the highest category of furnishing, and that was a site used mostly during the seventh century.

The cemeteries of Burgundy tended to be much longer lived than those of West Frankia, with many which were in use at the start of the sixth century still in use by the end of the eighth. In West Frankia, in contrast, all of the earliest, furnished cemeteries had gone out of use by the mid eighth century at the latest, with most being abandoned earlier at the end of the seventh century. There was only one cemetery in the sample from West Frankia which was still in use at the end of the eighth century, Chanteloup-en-Brie. The fact that there was no clear change in cemetery location in Burgundy between the seventh and eighth century, suggests that this area was quite different from the rest of the regions in the sample, not only in that it had noticeably fewer grave goods, but that there was far less of a clear break at the end of the seventh century.

Church cemeteries were again rare in both areas, but in West Frankia, there were none suitable for this analysis. Only three church cemeteries were included in the Burgundy sample, and two of those were some of the longest-lived cemeteries, Clos d'Aubonne, and Saint Prex, both used for the entirety of the sixth to eighth centuries. Saint Prex, like the church cemeteries of southern Germany was likely a high-status site in which burial was a rare event. Clos d'Aubonne was far more intensively used, however, and more closely resembled some of the field cemeteries in scale. Its graves were poorly furnished, 78%

contained no objects, and there was an average of just 0.32 objects per grave, but this is comparable to other contemporary field cemeteries in Burgundy.

Burgundy

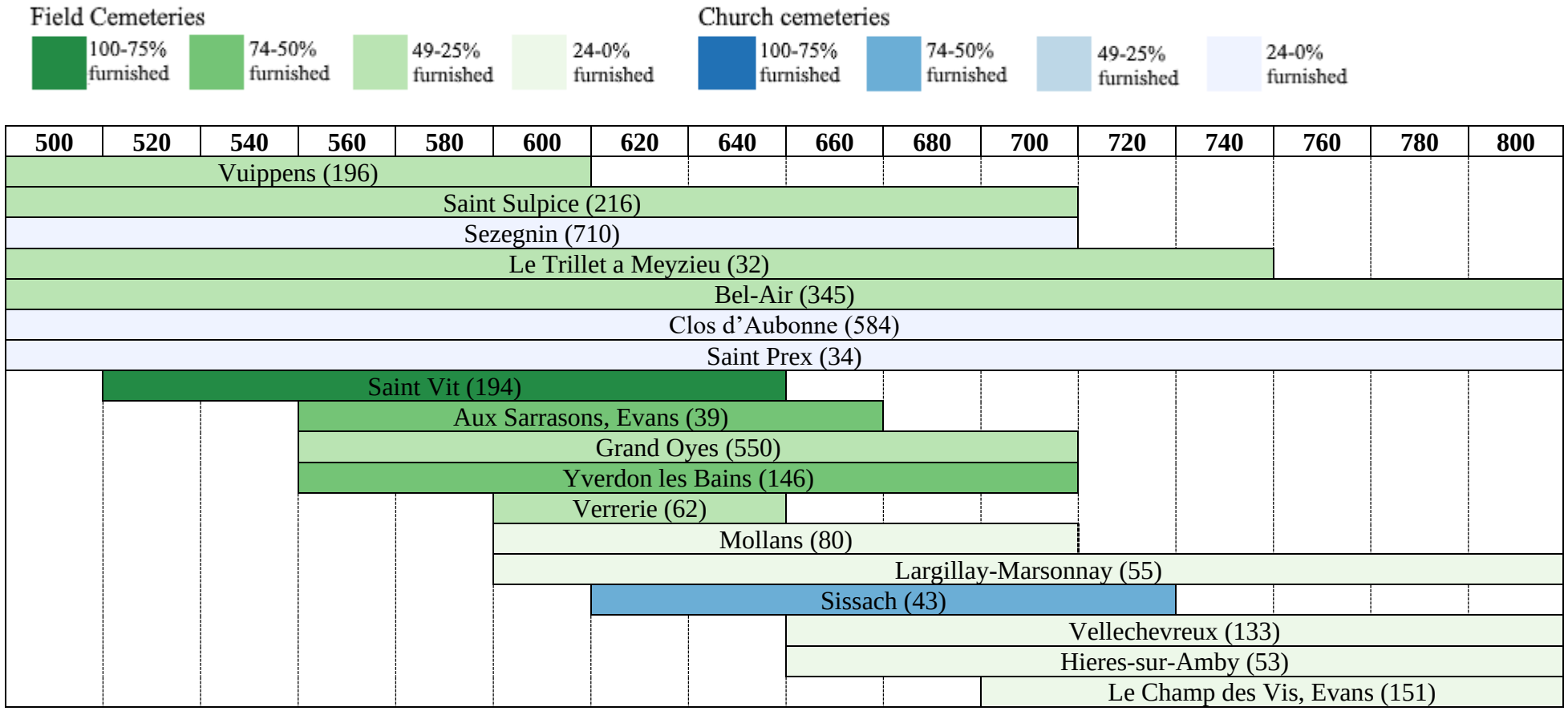

Figure 66: The lifespans of cemeteries in Burgundy. Number of graves in brackets

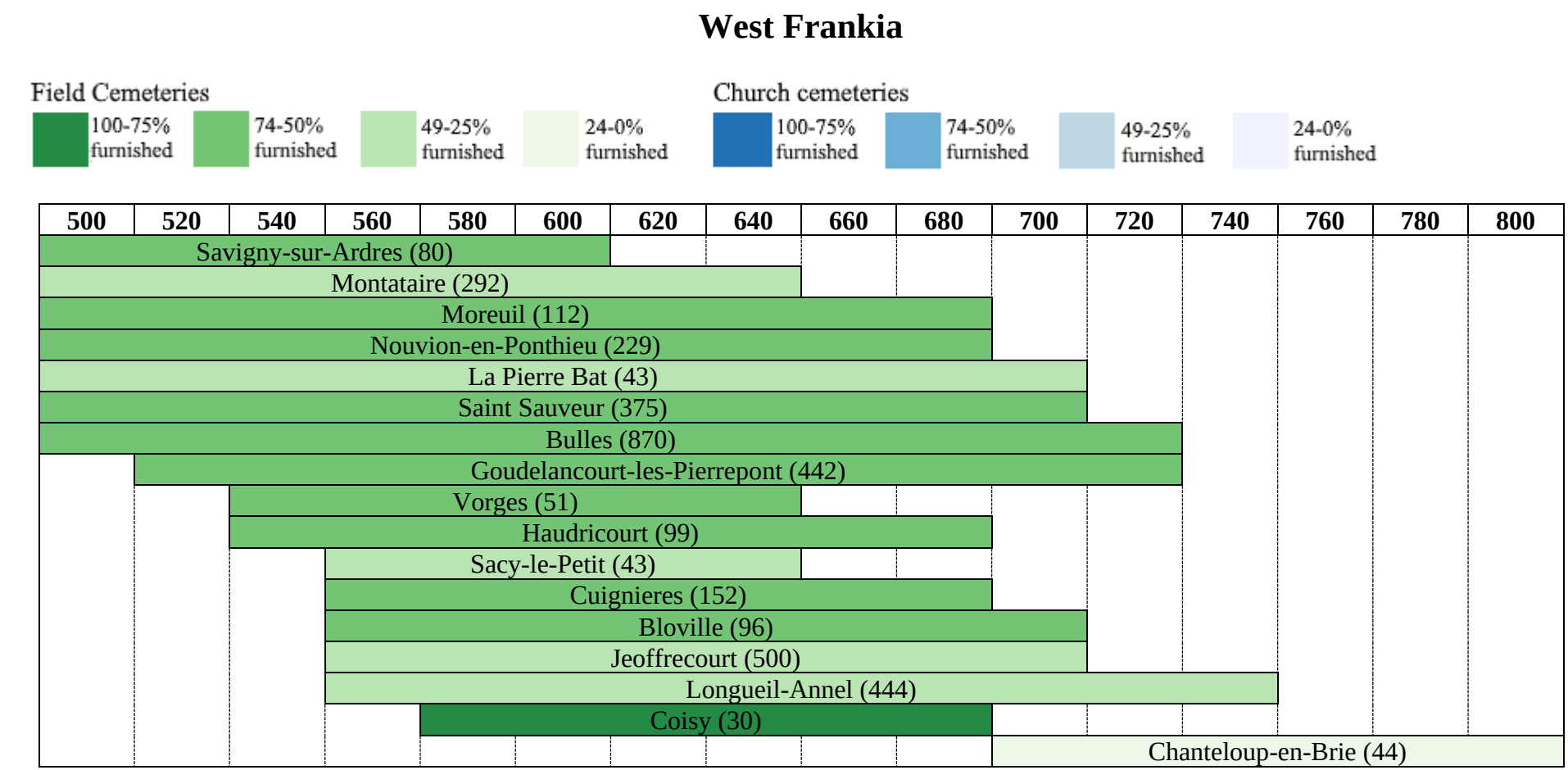

Figure 67: The lifespans of cemeteries in West Frankia. Number of graves in brackets

3.3.1. Numbers of Grave Goods

In Burgundy, there was a clear decrease in the numbers of objects used in graves, both over the entire study period, and within the sixth to seventh centuries. That the trend was so clear and strong was unusual given the initially low levels of grave good deposition. At the same time, the proportions of unfurnished graves in the Burgundian cemeteries also increased (fig. 68). Despite not seeing the sudden changes in cemetery location which occurred in other regions of Europe, burial in Burgundy therefore still underwent some of the same transformations.

When looking at the range of grave good use within Burgundian cemeteries, there were clear differences between earlier and later sites. There was a later group[4], all of which had almost negligible levels of furnishing with a few furnished outliers. Saint Vit, one of the earliest cemeteries, was something of an anomaly, with markedly higher grave good deposition (fig. 69). Even when Saint Vit was excluded from the statistical analysis, though, the trends were still statistically significant, suggesting that it was not the presence of this early, richly furnished cemetery alone which caused the surprisingly strong trends.

West Frankia was different. There, there was no appreciable decrease in grave good use (fig. 70). This is not to say that grave good use continued in this region; the fact that there was only one eighth century cemetery in the sample, in which 95% of burials were unfurnished, suggests that overall it did undergo the same process of abandonment, but that with only one later cemetery, this change does not appear statistically significant. Across the sixth to seventh centuries, there was also no appreciable change in grave good use. Levels of grave good provision were relatively standardised between cemeteries. Although there was quite a bit of variation in the richest graves in each cemetery, the majority fell within a much more standardised interquartile range of between zero to two objects per grave (fig. 71). This suggests a homogenous use of grave goods across this area.

There was a statistically significant change in the number of unfurnished burials, which increased both across the entire study period, and over the course of the sixth to seventh century. Statistically speaking, it was a very weak increase, but nonetheless demonstrates that grave good use in West Frankia was not as static as it first appeared. This pattern of change appears most similar to Bavaria, where there was also little change in overall numbers, but an increase in the use of unfurnished burial.

[4] Clos d'Aubonne, Largillay-Marsonnay, Vellechevreux, Hières-sur-Amby

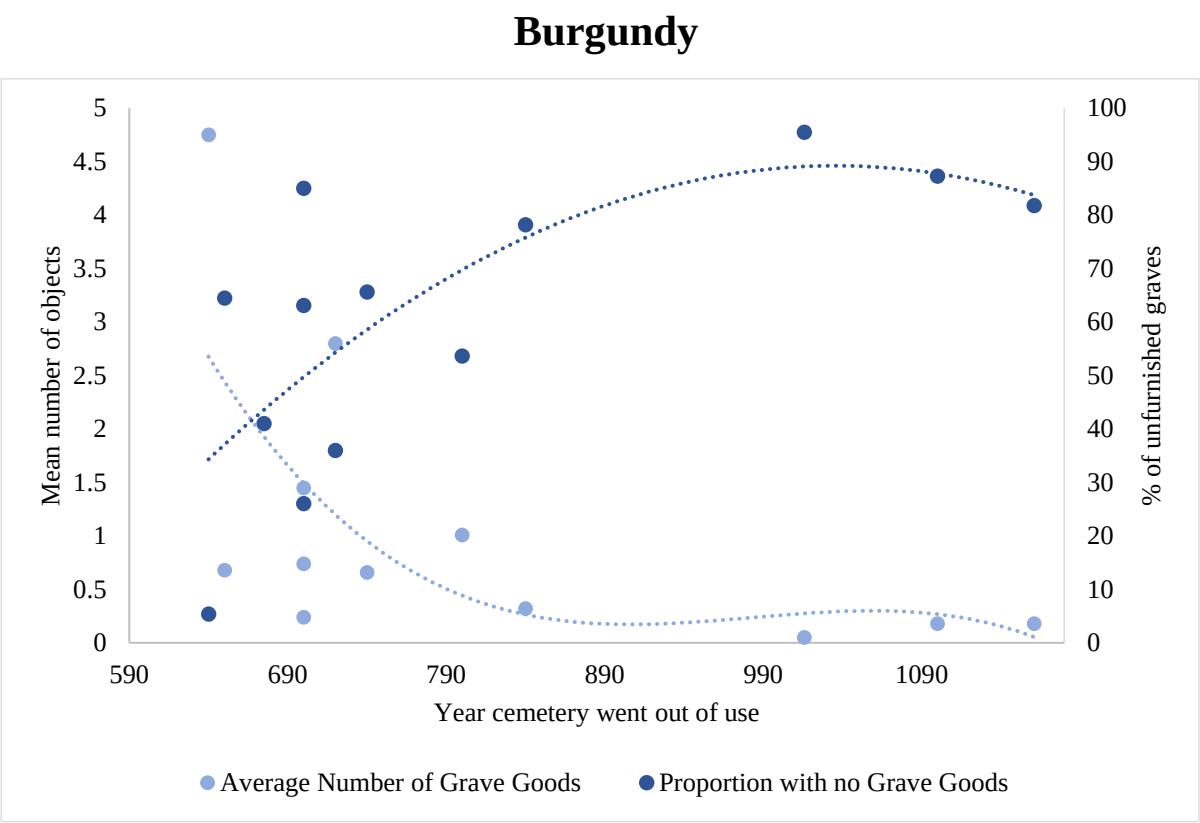

Figure 68: Trends in numbers of objects and unfurnished burials in Burgundy. Polynomial trendline order 3 for the mean number of objects, order 2 for unfurnished graves

	Overall Trend		*Trend during period of furnished burial*	
	R_s-value	*P-value*	*R_s-value*	*P-value*
Number of Objects	*-0.246*	*<0.0005*	*-0.172*	*<0.0005*
Unfurnished Burial	*0.222*	*<0.0005*	*0.160*	*<0.0005*

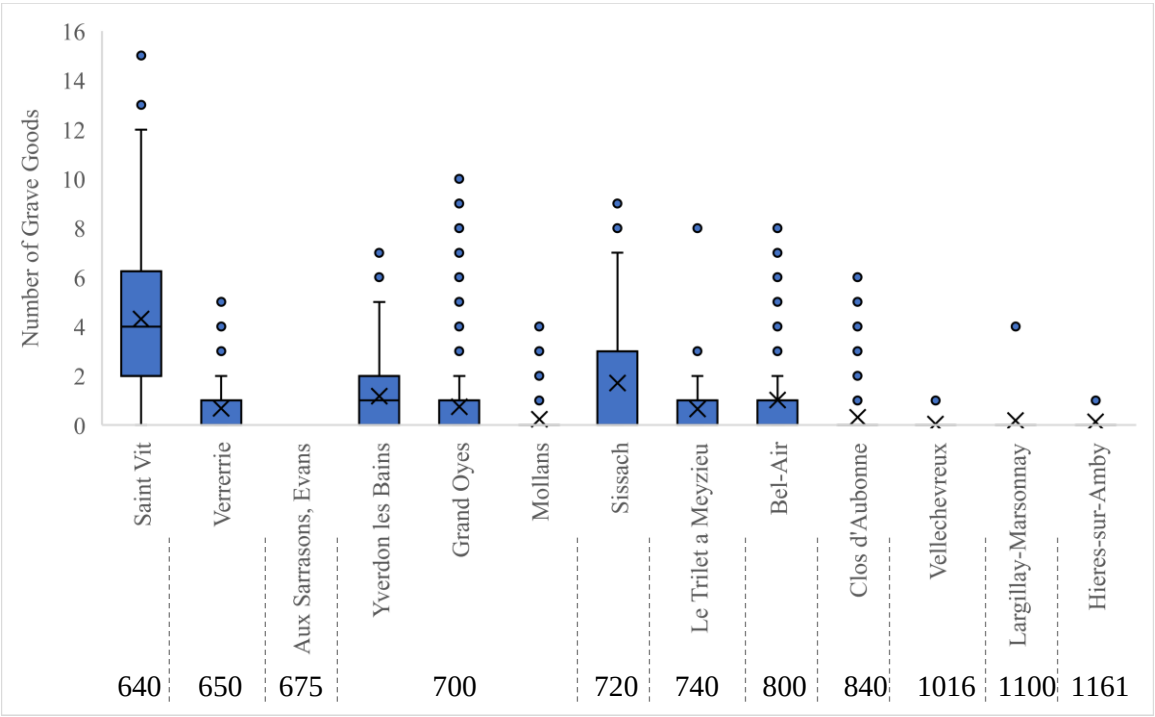

Figure 69: Box plot showing the numbers of grave goods in Burgundian cemeteries. Date represents the year a cemetery went out of use

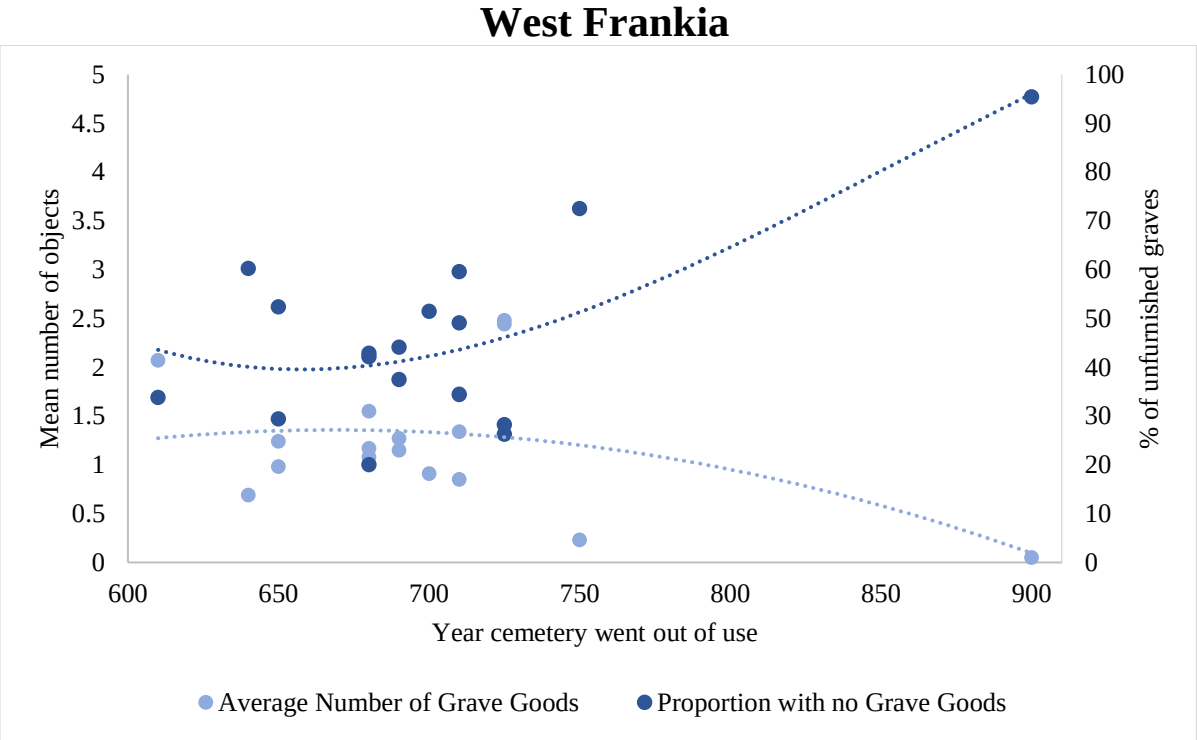

Figure 70: Trends in numbers of objects and unfurnished burials in West Frankia. Polynomial trendlines, order 2 for mean number of objects, order 3 for unfurnished graves

	Overall Trend		*Trend during period of furnished burial*	
	R_s-value	*P-value*	*R_s-value*	*P-value*
Number of Objects	*-0.022*	*0.228*	*0.001*	*0.966*
Unfurnished Burial	*0.057*	*<0.0005*	*0.038*	*0.017*

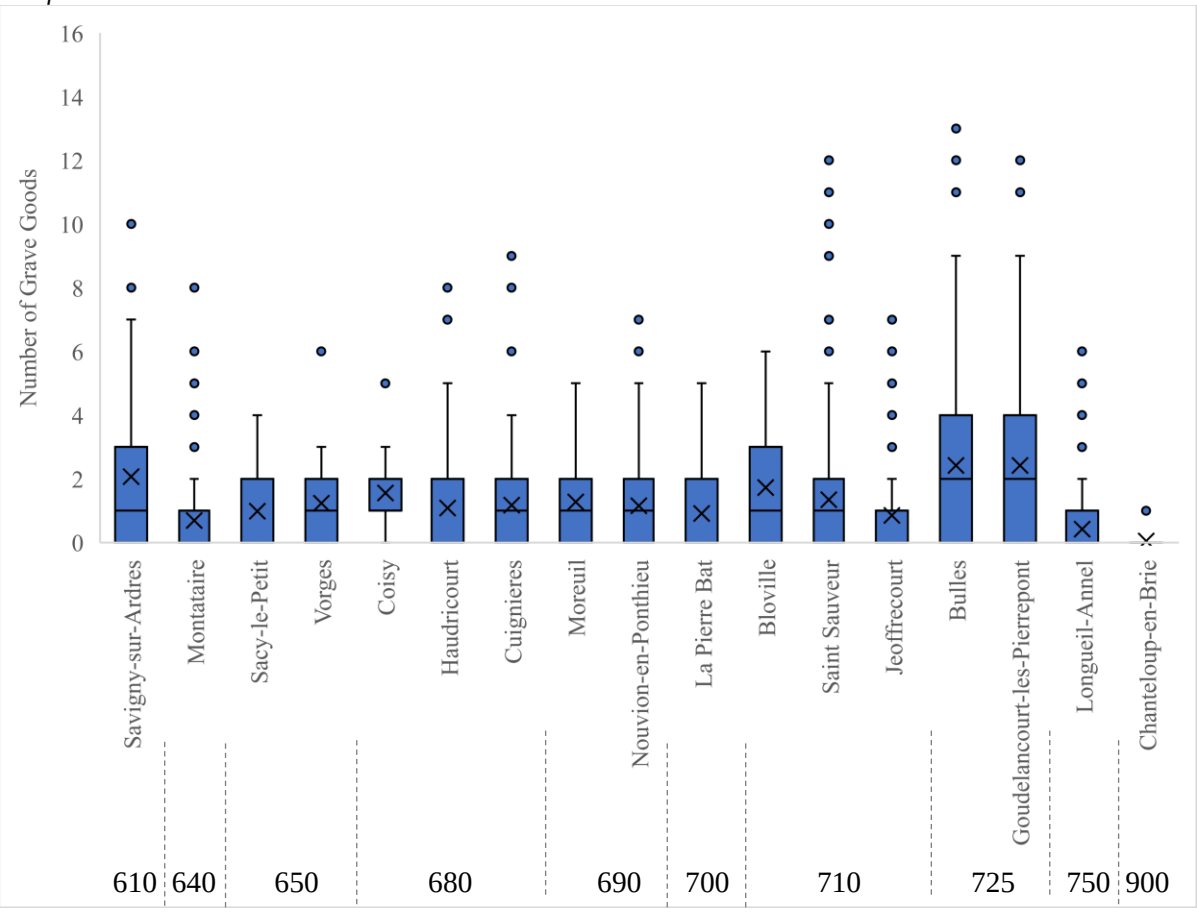

Figure 71: Box plot showing the numbers of grave goods in the cemeteries of West Frankia. Date represents the year a cemetery went out of use

3.3.2. Types of Grave Goods

The changes in the different types of grave goods mirrored those of overall numbers; the types of objects placed in the graves of West Frankia changed very little, but there were slight but significant decreases in almost all of the categories commonly used in Burgundian graves.

Whilst most object categories remained consistently used in the cemeteries of West Frankia, there were still some changes (fig. 73). Fittings saw a slight decrease, while personal accessories, and vessels saw a slight increase in the frequency with which they were deposited in graves. There was not a clear increasing trend in the use of personal accessories, however; the correlation between the year a cemetery went out of use, and the proportion of graves within it which contained personal accessories was only a very weak one (fig. 74). Two cemeteries which lasted into the early eighth century contained some of the highest numbers of personal accessories, Bulles and Goudelancourt-les-Pierrepont. Both of these were long-lived sites, in use for almost two centuries, and at Bulles, personal accessories did decrease over the course of the cemetery's use (see chapter 4), so we cannot dismiss the possibility that the high proportion of personal accessories used in graves at these sites is primarily due to high early use. The increase in vessels, meanwhile, was also a weak correlation with the year a cemetery went out of use, but one of the strongest compared to other artefact types (fig. 75). Vessels were initially found in very high levels in the graves of West Frankia, suggesting that their presence was highly important for the funerary rite there, and remained so.

In contrast, Burgundy saw consistent decreases in almost all common artefact types. The rarer types of object, including tools, cosmetics, amulets, and coins, showed no statistically significant changes (fig. 76). Of the other object categories, vessels (fig. 77), weapons (fig. 78), and animal remains saw the proportionally largest changes, while personal accessories saw one of the smallest changes (fig. 79). In each of these cases, it was not a linear decrease, and there was great variability between cemeteries. In many cases, the pattern was skewed by the cemetery of Saint Vit, which had considerably higher levels of grave good use than the other Burgundian cemeteries. This was especially true of vessels, which were found in 72% of graves at Saint Vit; the next most common figure was 18%. The original report suggests that the greater investment in graves at Saint Vit was because of its strategic location on the River Doubs, which made it an important site for the recent Frankish conquerors to show off their status (Urlacher *et al.* 2008, 269), though there were other sites on the Doubs, and on other sites throughout the region that did not show such high investment (fig. 72), so this alone is

not a satisfactory explanation. As with overall numbers, excluding Saint Vit did not change these trends, only weaken them.

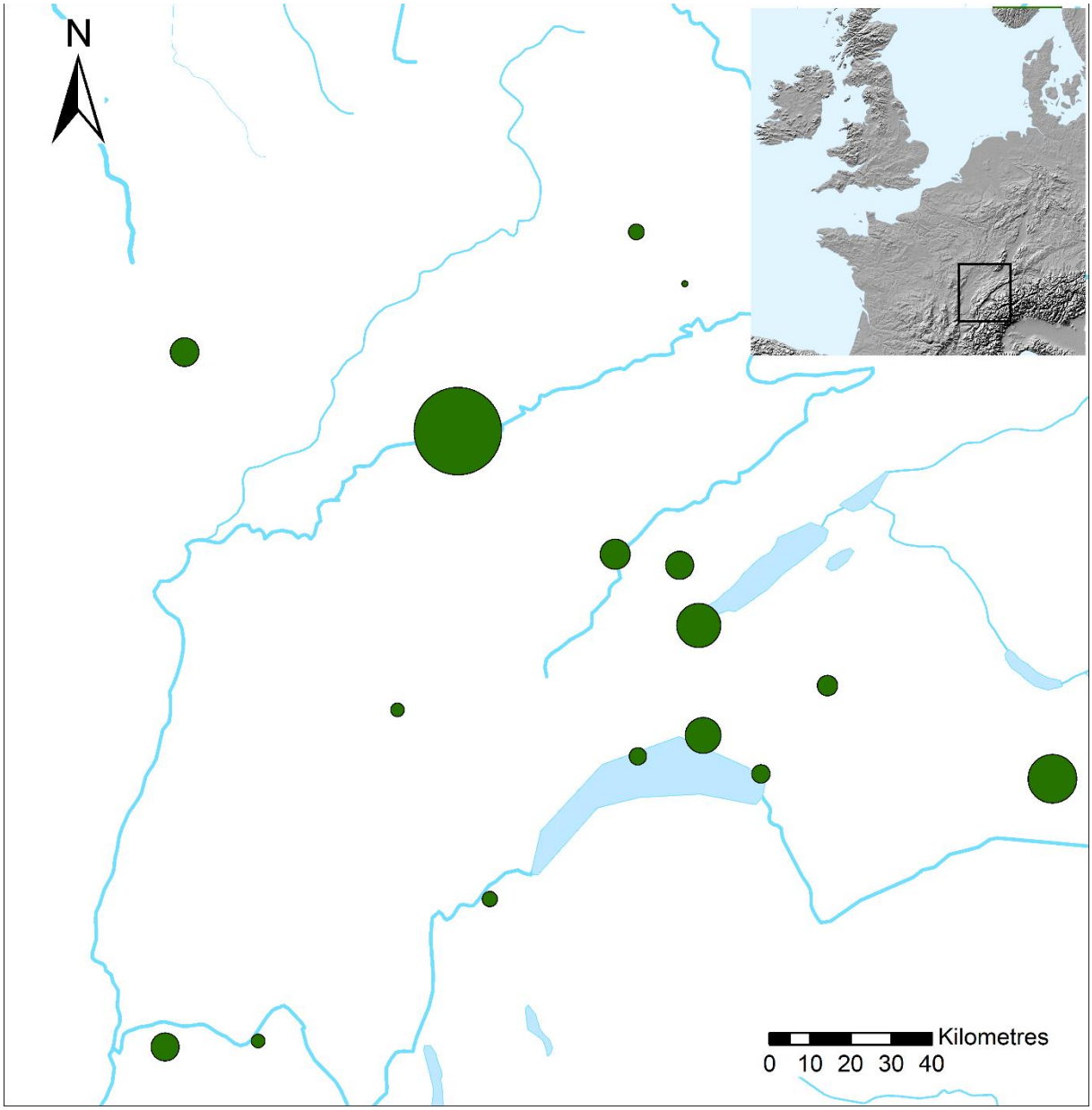

Figure 72: Cemeteries in Burgundy. Relative size of dot is proportional to the average number of grave goods per cemetery.

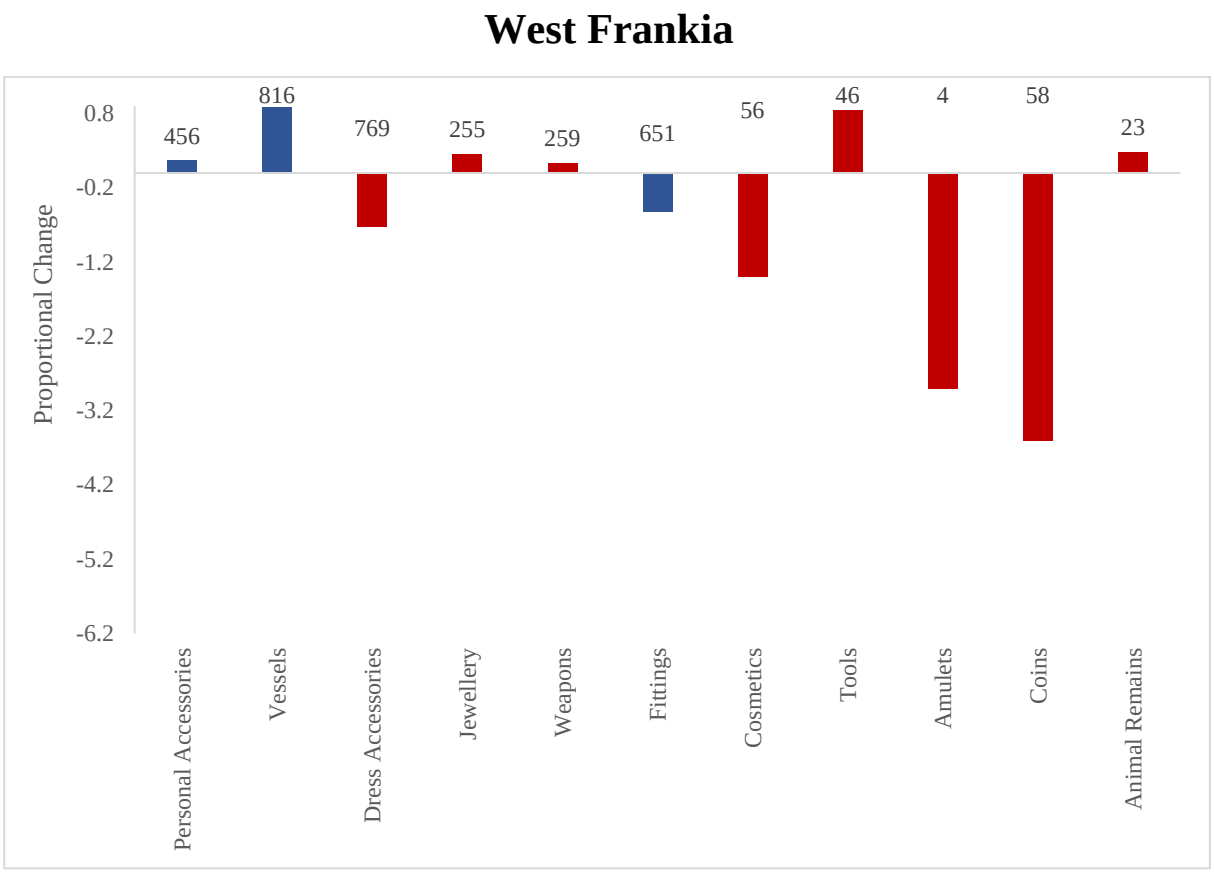

Figure 73: Proportional changes in different types of grave goods in the cemeteries in West Frankia between 610 and 750. Red = not statistically significant. Numbers indicate the total number of graves in that region containing those objects

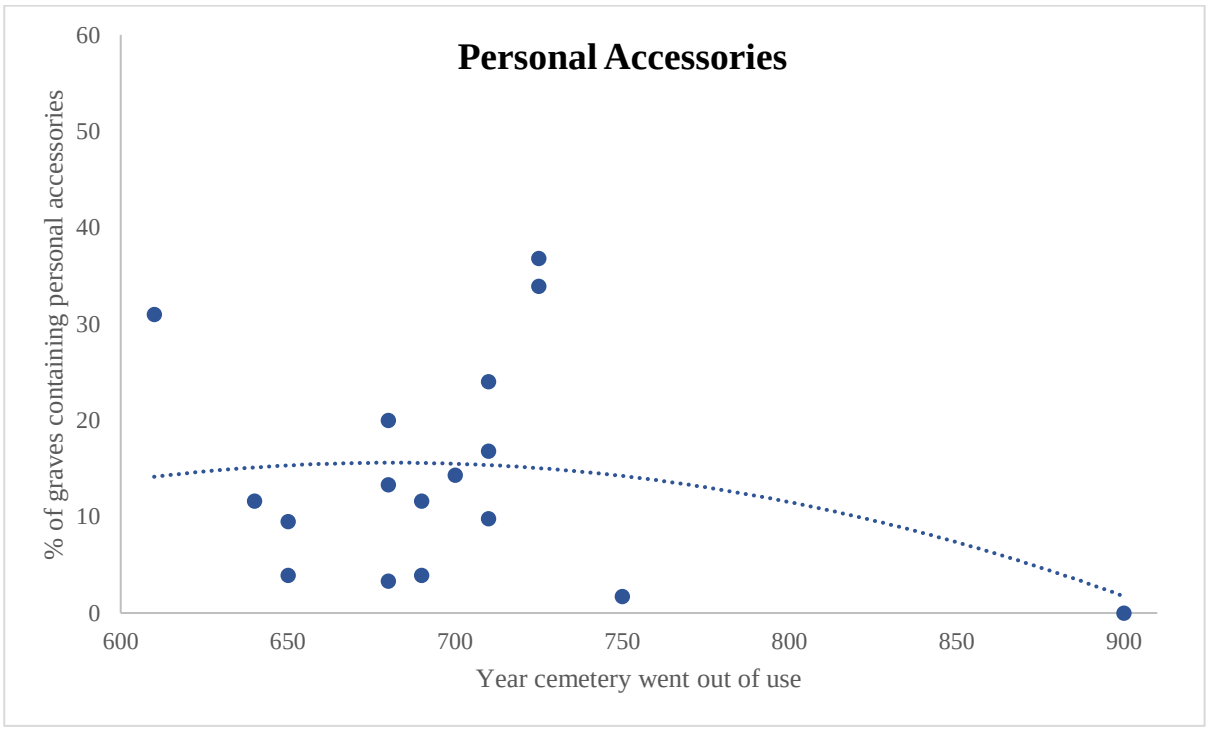

Figure 74: Trends in the use of personal accessories in West Frankia. Polynomial trendline order 2

Overall Trend		*Trend during period of furnished burial*	
R_s-value	*P-value*	*R_s-value*	*P-value*
0.050	*0.001*	*0.061*	*<0.0005*

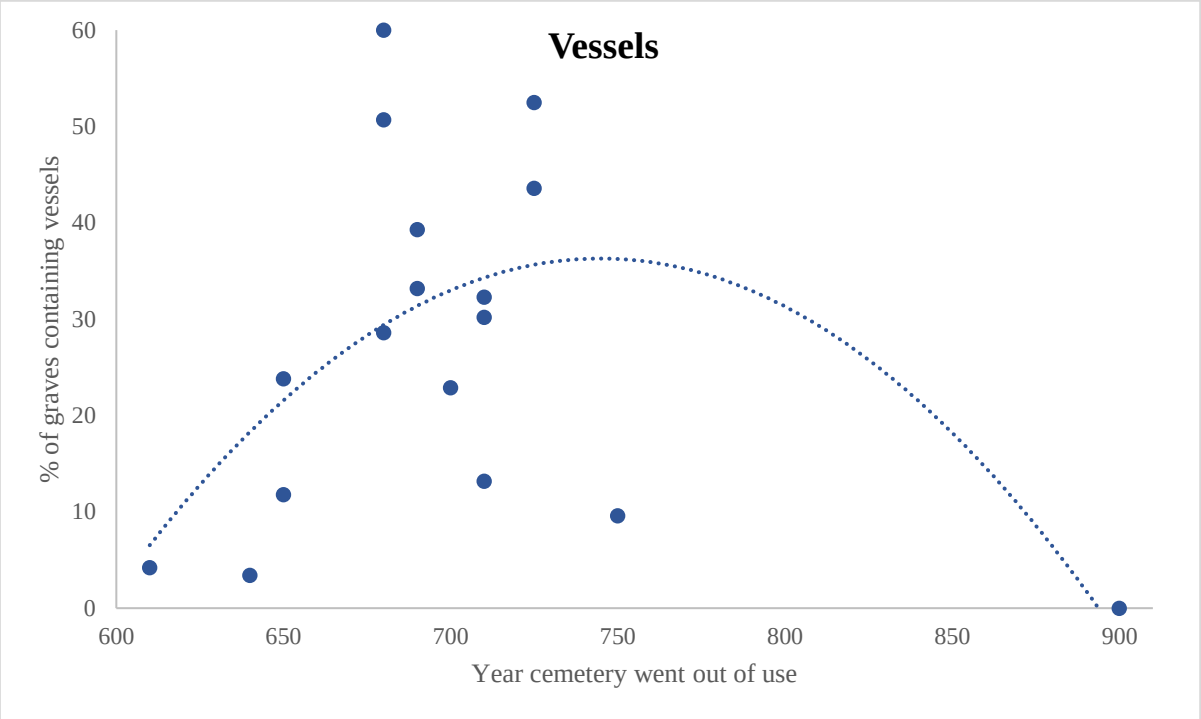

Figure 75: Trends in the use of vessels in West Frankia. Polynomial trendline order 2

Overall Trend		*Trend during period of furnished burial*	
R_s-value	*P-value*	*R_s-value*	*P-value*
0.041	*0.010*	*0.055*	*0.001*

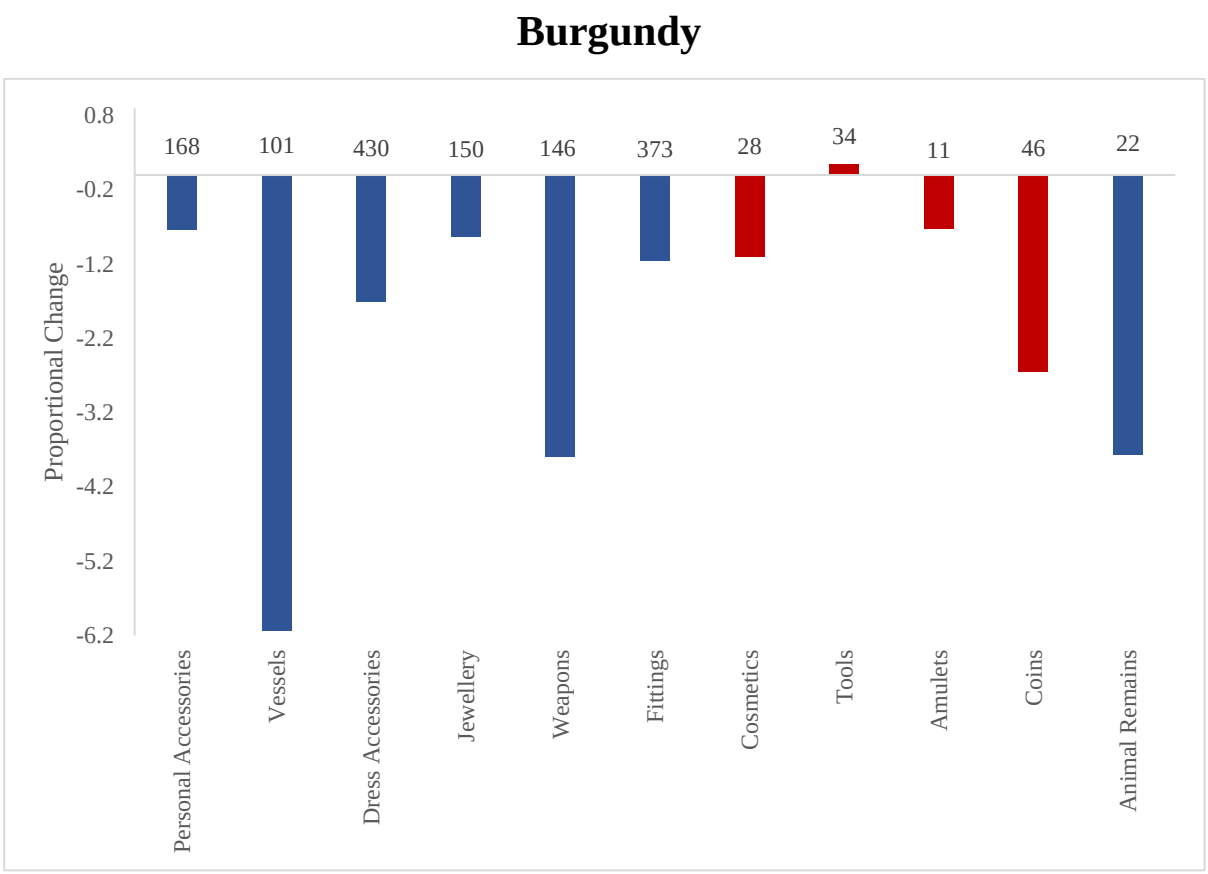

Figure 76: Proportional changes in different types of grave goods in the cemeteries in Burgundy, between 640 and 740. Hashed bars= not statistically significant. Numbers indicate the total number of graves in that region containing those objects

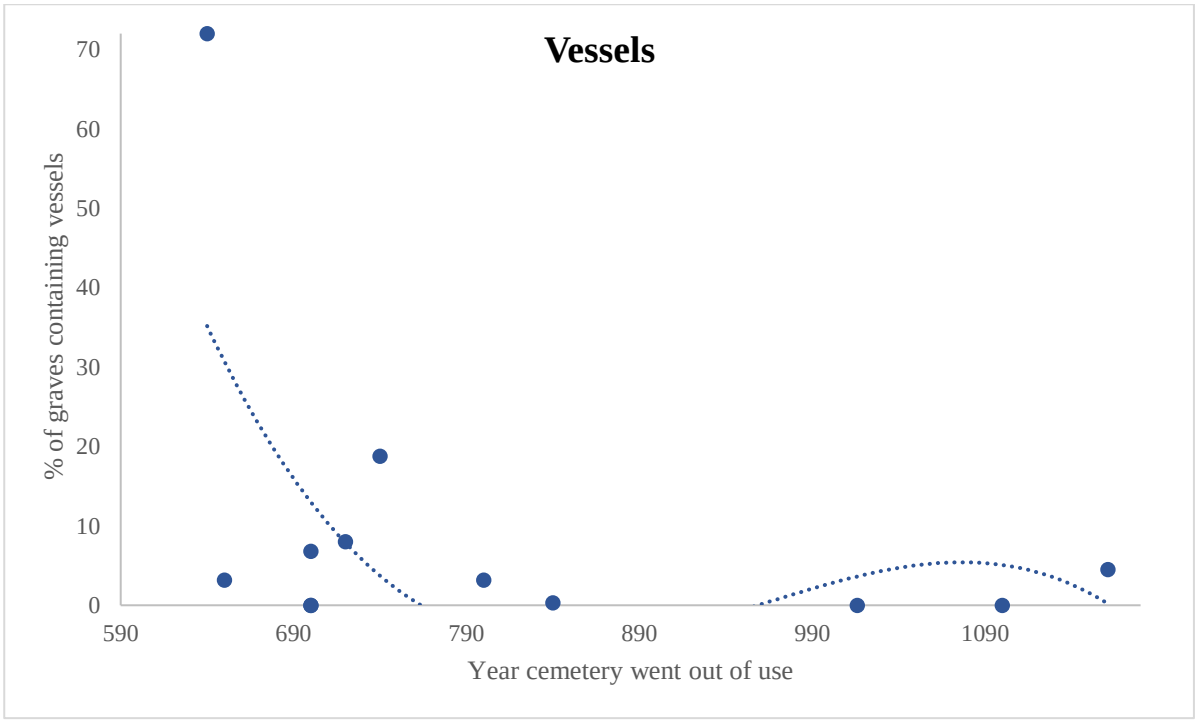

Figure 77: Trends in the use of vessels in Burgundy. Polynomial trendline order 3

Overall Trend		*Trend during period of furnished burial*	
R_s-value	*P-value*	*R_s-value*	*P-value*
-0.054	*0.005*	*-0.047*	*0.037*

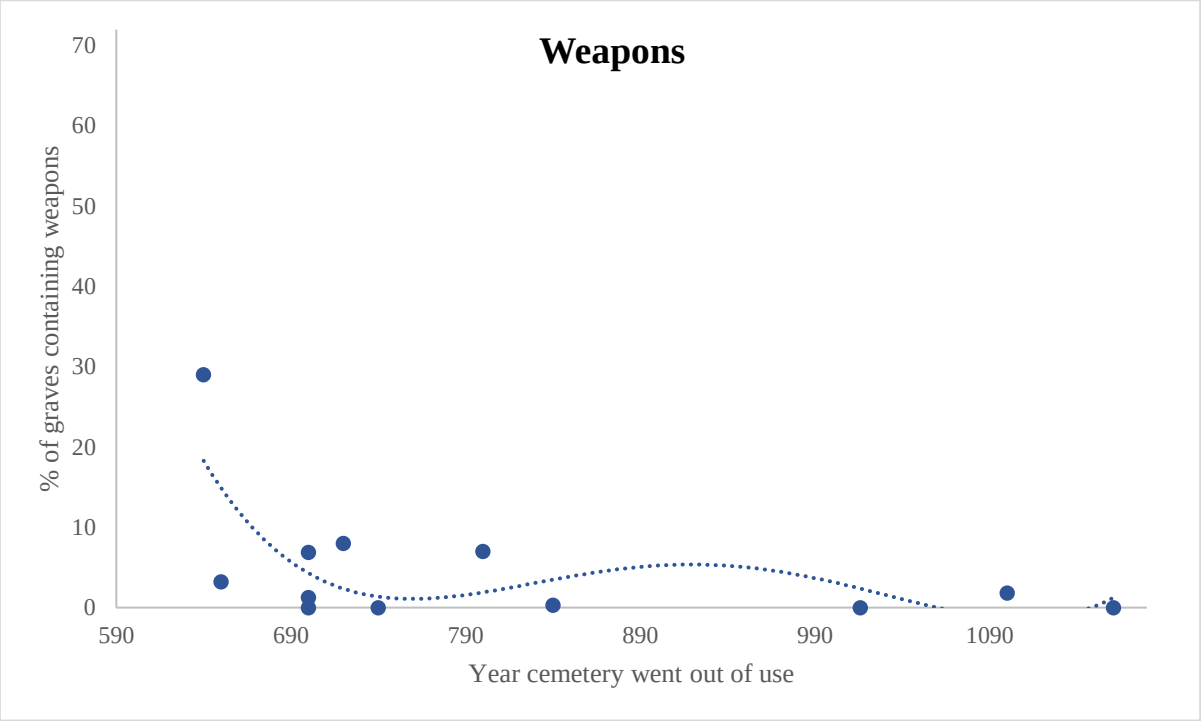

Figure 78: Trends in the use of weapons in Burgundy. Polynomial trendline order 4

Overall Trend		*Trend during period of furnished burial*	
R_s-value	*P-value*	*R_s-value*	*P-value*
-0.076	*<0.0005*	*-0.047*	*0.037*

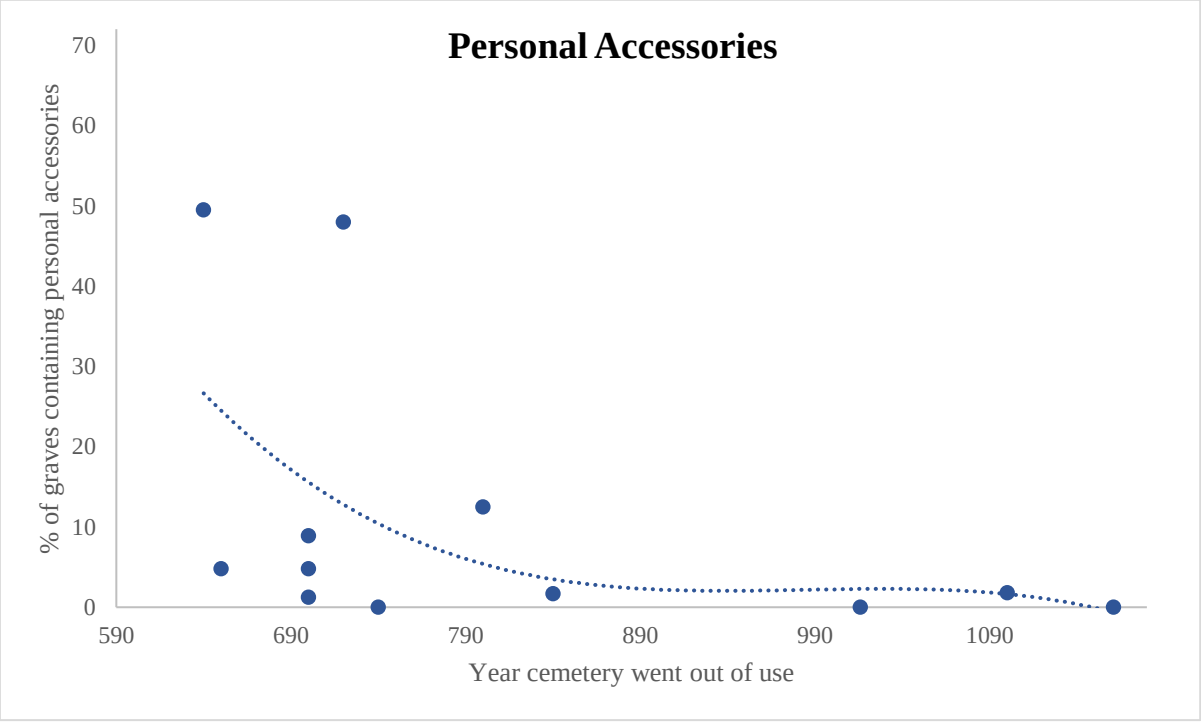

Figure 79: Trends in the use of personal accessories in Burgundy. Polynomial trendline order 3

Overall Trend		*Trend during period of furnished burial*	
R_s-value	*P-value*	*R_s-value*	*P-value*
-0.081	*<0.0005*	*-0.055*	*0.015*

3.3.3. Summary

Despite both of these regions appearing on the periphery of the main areas of furnished burial, there were still marked differences in how the custom of unfurnished burial became dominant in each of them. In West Frankia, the change was sudden, with few appreciable changes leading up to the abandonment of the furnished cemeteries, and only a slight increase in the use of personal accessories and vessels. Burgundy, in contrast, began to adopt unfurnished burial earlier. Most common categories of grave goods declined in the period leading up to the abandonment of most cemeteries, but did so at a differential rate, with the largest changes seen in vessels and weapons, and the smallest seen in personal accessories. In contrast to other areas, personal accessories were not one of the most common artefact types used in the graves of Burgundy, but this suggests that they became proportionally more common as time went on.

Perhaps the reason the change was so stark in Burgundy, despite its initially low levels of grave good use is that it directly bordered the regions to the south where grave good use was much rarer. While the use of grave goods in the south has perhaps been underestimated, it was still markedly lower than grave good use in cemeteries further north (Halsall 1995, 14). The region of Burgundy was part of a transitional zone between the largely unfurnished, Late Antique practices which continued to be used in southern Gaul, and the richer cemeteries of the north. The influence of the latter can be clearly seen in the cemetery of Saint Vit, which appeared far more like the Alamannic cemeteries than its immediate neighbours. Most Burgundian cemeteries, however, appeared far more similar to the continuing Roman traditions of southern Gaul than the frontier practices of further north. This means that the concept of completely unfurnished burial was more well-known, and familiar in Burgundy than in other regions, so that when it began declining across wide regions, the transition was an easy one for Burgundian communities to make, so much so that in many instances, it did not require moving to new cemetery sites to do so. While the region of West Frankia shared some practices with Gallo-Roman burials, it was culturally more attuned with those of the rest of the Frankish world, and so had competing influences on its funerary rites.

Key Trends in West Frankia

- Furnished cemeteries abandoned by the late seventh and early eighth century in
- Cemeteries consistently furnished across the seventh and eighth centuries
- Only decrease was in the use of fittings; personal accessories and vessels became more commonly used over time.

Key Trends in Burgundy

- No clear break in cemetery use in Burgundy
- Later cemeteries more likely to be poorly furnished, despite initial low levels of grave good use
- Decreases in all object categories except the rarest.

3.4. The Lower Rhine and East Frankia

We have already seen that the area around the Lower Rhine, the Low Countries, and the Moselle was the last area of Europe to abandon the widespread use of grave goods. Fig. 80 shows that the latest furnished cemetery went out of use around 750, but many were also steadily abandoned over the course of the seventh century, and with increasing rapidity in the first half of the eighth century. There were very few purely eighth-century cemeteries available, only the Carolingian cemetery within the St. Servatius complex in Maastricht, which was also one of the few church cemeteries from this area.

Only one site from the Lower Rhine region had minimal levels of furnishing, and that was one of the latest cemeteries. However, there were more sites where over half of the graves were unfurnished, and they were not confined to a particular time period. Only 38% of the graves from the Frankish period of Krefeld-Gellep were furnished, but they spanned the sixth, seventh and early eighth centuries, although we cannot discount the possibility that the furnished burials were clustered near the start, while the unfurnished ones were clustered near the end. In use for the same period of time as Krefeld-Gellep were the cemeteries at St Severin and St Gereon, both of which were located around churches, and also had a majority of unfurnished graves.

The cemeteries in the Lower Rhine area were unusually long lived, with none of them lasting for less than a century. This causes problems, both with the GIS analysis and with the analysis to follow. These methods both depend on a relatively rapid turnover of cemeteries to be able to illustrate change over time; when so many cemeteries were in use for such a long period of time, this region will appear to have much more static practice than it did in reality. The use of an individual case study (Chapter 4) will be particularly important for this region therefore, to try and understand how strong the decline really was in comparison to other regions.

Alongside the cemeteries of the Lower Rhine, I also considered a smaller group of cemeteries in eastern Frankia; this was a distinct cluster in the data set, and though there are only eight cemeteries here, they were distinct enough from the Lower Rhine and from West Frankia to be worth considering in their own right (fig. 80). In many ways, this was a transitional region between the Frankish areas, and the Alamannic and Bavarian areas. It is difficult to make too many broad conclusions, based on a relatively small sample, but they varied in the length of time they were used for, and in this respect appeared much more like the cemeteries of West Frankia than those of the Lower Rhine. There were no purely eighth-century cemeteries from this region, but we have already seen that this was not unusual, given the absence of these

later sites even from areas where a far larger sample was available. Only the cemetery of Metzervisse was in use throughout the seventh and eighth centuries, and was not abandoned until late in the ninth century, despite largely being furnished.

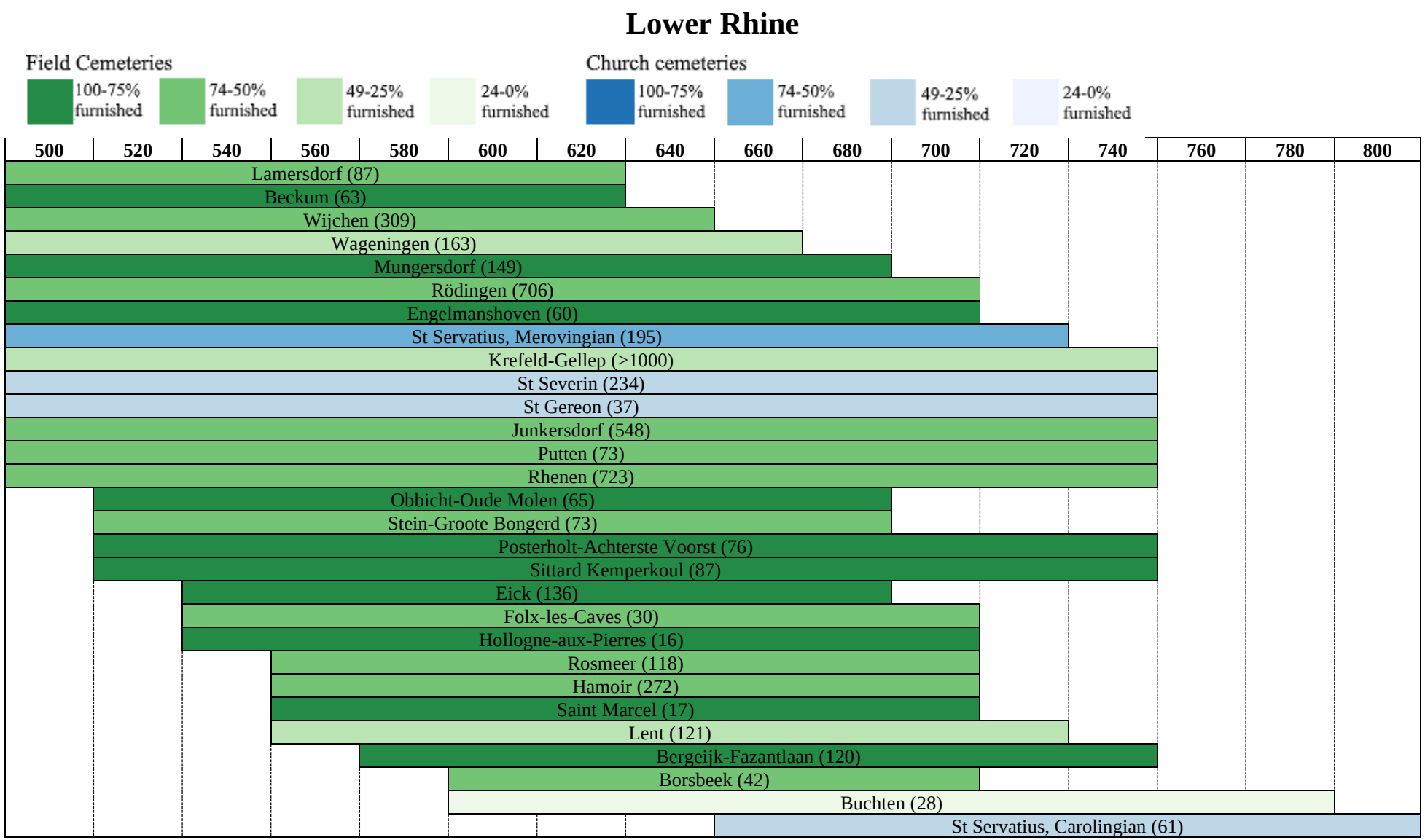

Figure 80: The lifespans of cemeteries in the Lower Rhine region. Number of graves in brackets

Eastern Frankia

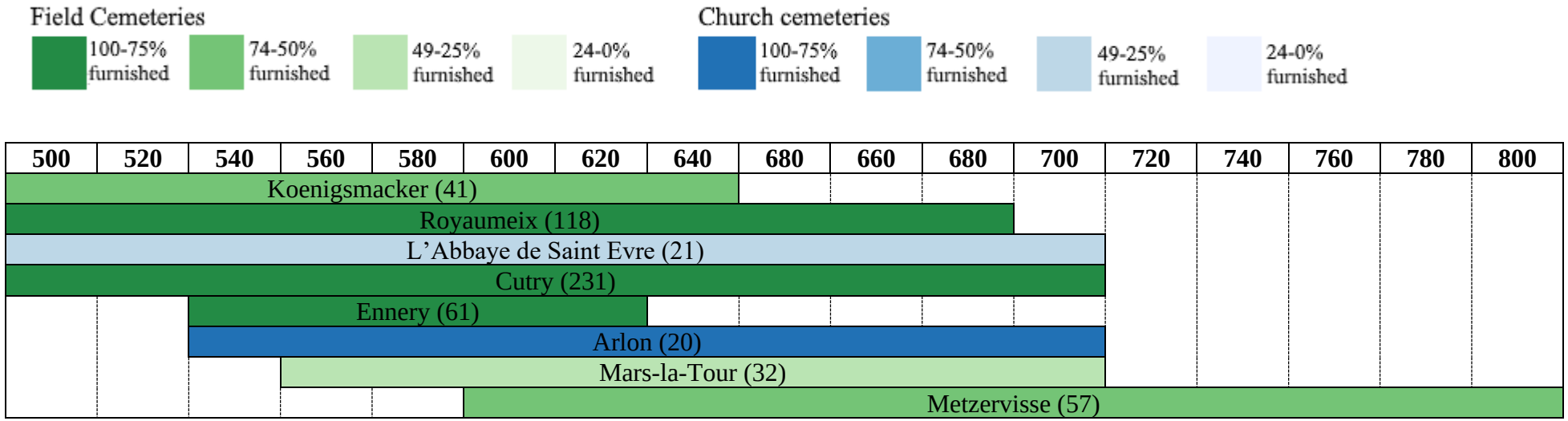

Figure 81: The lifespans of cemeteries in Eastern Frankia. Number of graves in brackets

3.4.1. Numbers of Grave Goods

There was a statistically significant decrease in the numbers of objects being used in graves in the Lower Rhine region, both across the entire study period, and during the sixth and seventh centuries. This was not a steady, continuous decrease, however, and the trend was quite weak, which may well be caused by the longevity of the cemeteries in this region (fig. 82).

Where the Lower Rhine really differed from other regions was in the variability of the level of furnishing; in many other regions, the cemeteries which were most poorly furnished were those which dated to the late seventh century and early eighth century; those which went out of use in the sixth and early seventh centuries were relatively rich. Here, however, there were no cemeteries which went out of use during the sixth century, and both poorly and richly furnished cemeteries co-existed alongside each other throughout the seventh and early eighth centuries, suggesting much more variability of practice across the region (fig. 83). Fig. 86 suggests that there is some slight geographical variation to this; those cemeteries found further north, and closer to the coast tended to be poorer, but there were also plenty of similarly poorly furnished cemeteries further inland, in close proximity to richer sites. Accurately assessing the cemeteries of the coastal regions is also hampered by later erosion of many of these sites.

The later cemeteries in eastern Frankia also tended to have fewer grave goods than earlier ones; those which went out of use in the eighth century and later all had lower levels of grave good use than those which went out of use prior to this point. This was again not a steady decrease; the cemetery of Arlon contained no unfurnished graves, and had a mean grave good provision of over six objects per grave, yet went out of use around 700. Likewise, Metzervisse, which did not go out of use until the late ninth century was more richly furnished than the two cemeteries which stopped being used in the early eighth century. So although there was a tendency towards lower deposition in this area, it was not a clear trend (fig. 84, fig. 85).

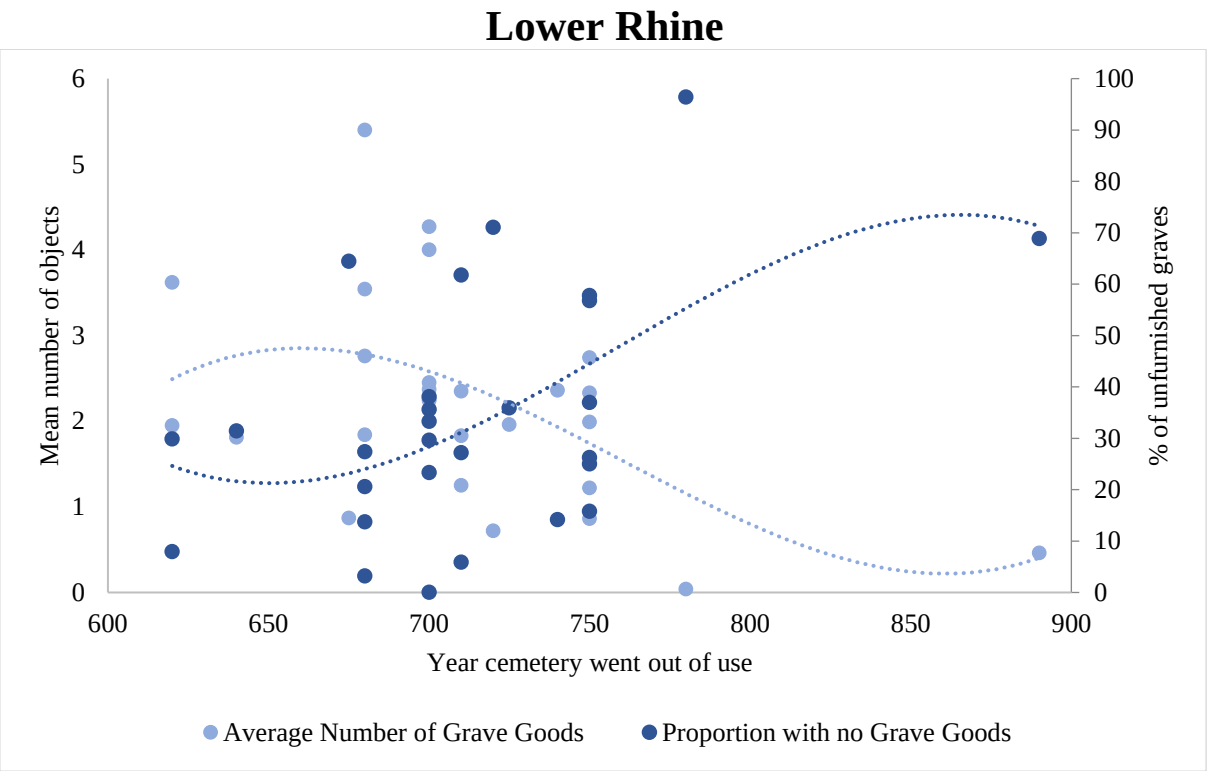

Figure 82: Trends in numbers of objects and unfurnished burials in the Lower Rhine. Polynomial trendlines order 3.

	Overall Trend		*Trend during period of furnished burial*	
	R_s-value	*P-value*	*R_s-value*	*P-value*
Number of Objects	*-0.129*	*<0.0005*	*-0.111*	*<0.0005*
Unfurnished Burial	*0.094*	*<0.0005*	*0.081*	*<0.0005*

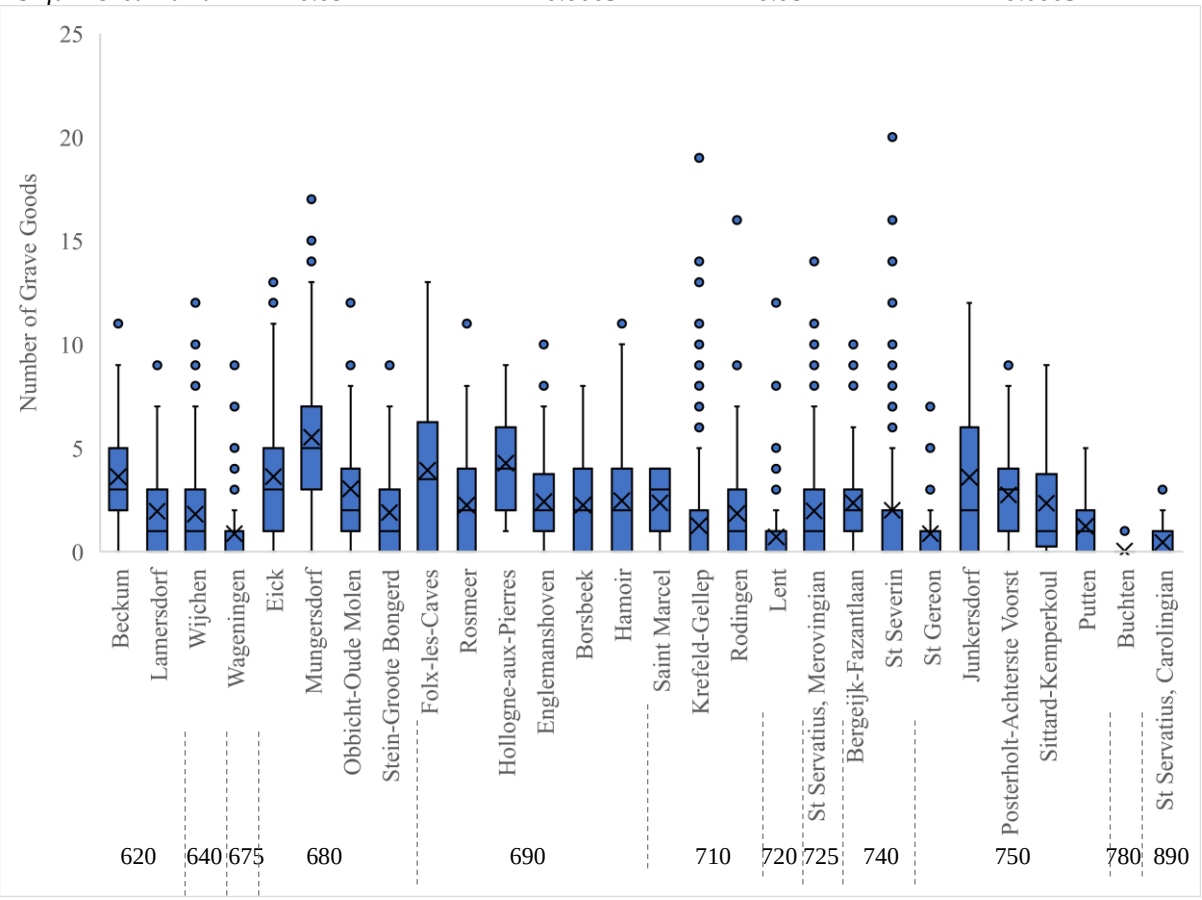

Figure 83: Box plot showing the numbers of grave goods in Lower Rhine cemeteries. Date represents the year a cemetery went out of use

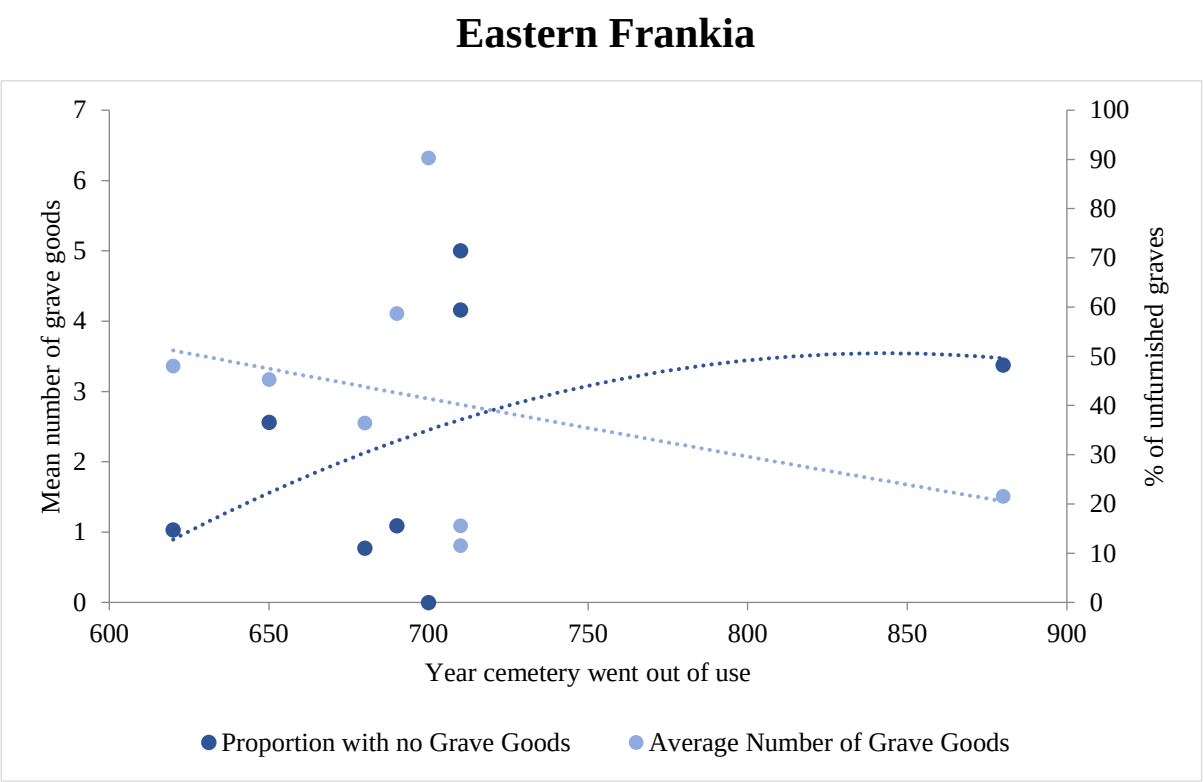

Figure 84: Trends in numbers of objects and unfurnished burials in Eastern Frankia. Polynomial trendlines order 2

	Overall Trend	
	R_s-value	*P-value*
Number of Objects	*-0.159*	*<0.0005*
Unfurnished Burial	*0.194*	*<0.0005*

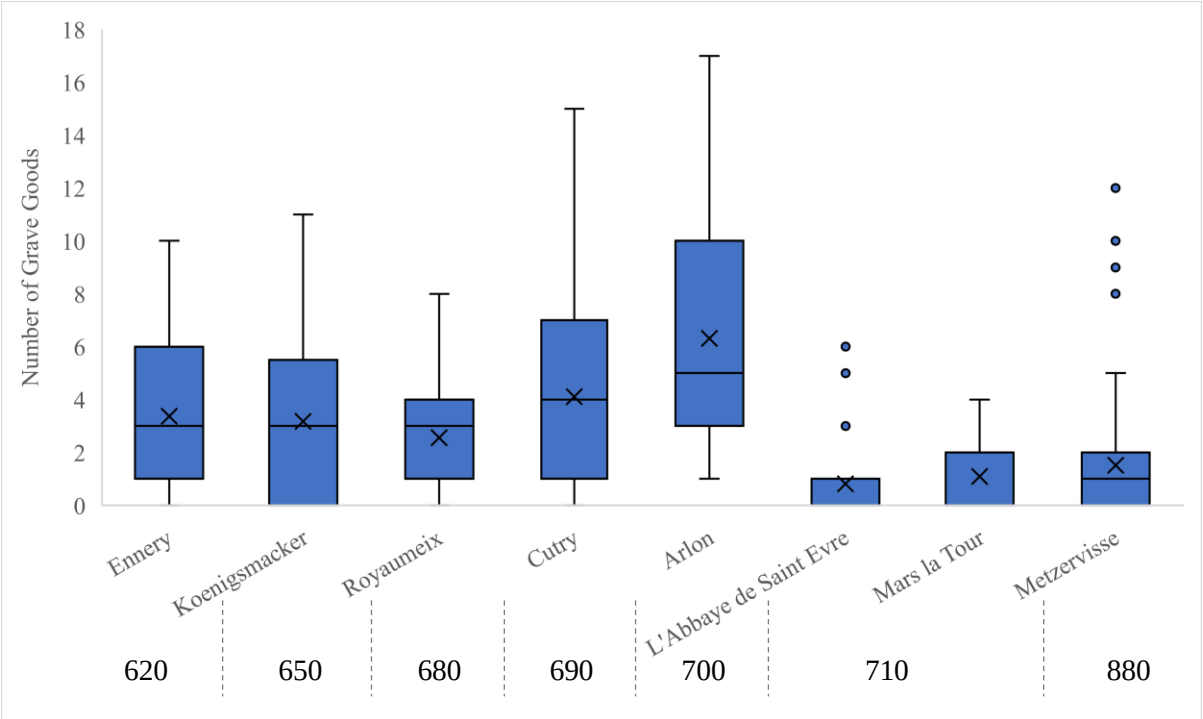

Figure 85: Box plot showing the numbers of grave goods in cemeteries in Eastern Frankia. Date represents the year a cemetery went out of use

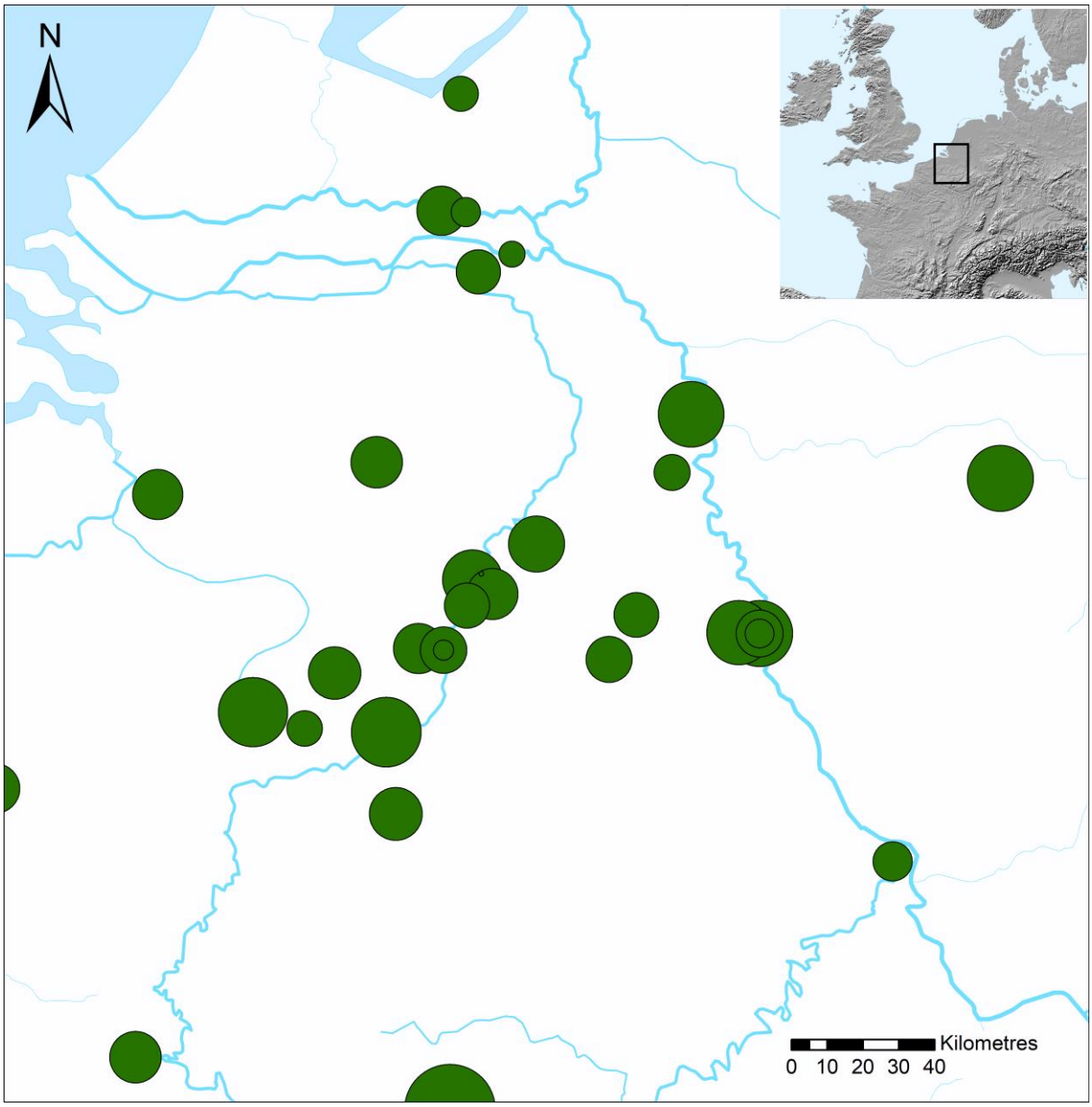

Figure 86: Cemeteries in the Lower Rhine region. Relative size of dot is proportional to the average number of grave goods per cemetery

3.4.2. Types of Grave Goods

Almost all the different categories of object showed some degree of change over the period of furnished burial in the Lower Rhine region, though in most cases, these were very slight (fig. 87), again a limitation of the method. The largest proportional change was seen in the use of tools (fig. 88), while the smallest decline in use was seen in dress accessories (fig. 89) and fittings, and there was a statistically significant increase in the use of coins in graves. The latter was probably caused by the three cemeteries of St Severin, Junkersdorf, and Posterholt-Achterste Voorst, all of which went out of use in 750, and over 10% of their graves contained coins. Otherwise, coin numbers remained consistently low, mostly less than 4% of graves. In no instances were any of the trends in decreasing numbers particularly strong, and, as with overall numbers, cemeteries with high use of these objects co-existed alongside cemeteries where they were rarely used. In all aspects, the Lower Rhine was a region of funerary variability.

In eastern Frankia, the changes in the types of grave good were again varied. By far the proportionally largest decrease was seen in animal remains, with smaller decreases also seen in vessels, dress accessories, and weapons (fig. 90). That the change in animal remains was so dramatic was largely due to the unusually high number of graves with animal remains in Ennery, the earliest cemetery to go out of use, at 23%. All later cemeteries used animal remains less frequently, including four with none at all (fig. 91). All other categories saw no statistically significant changes in this region. Though there appears to have been a slight decrease in the use of personal accessories, with the graph appearing very similar to that for overall numbers, this was not statistically significant (fig. 92).

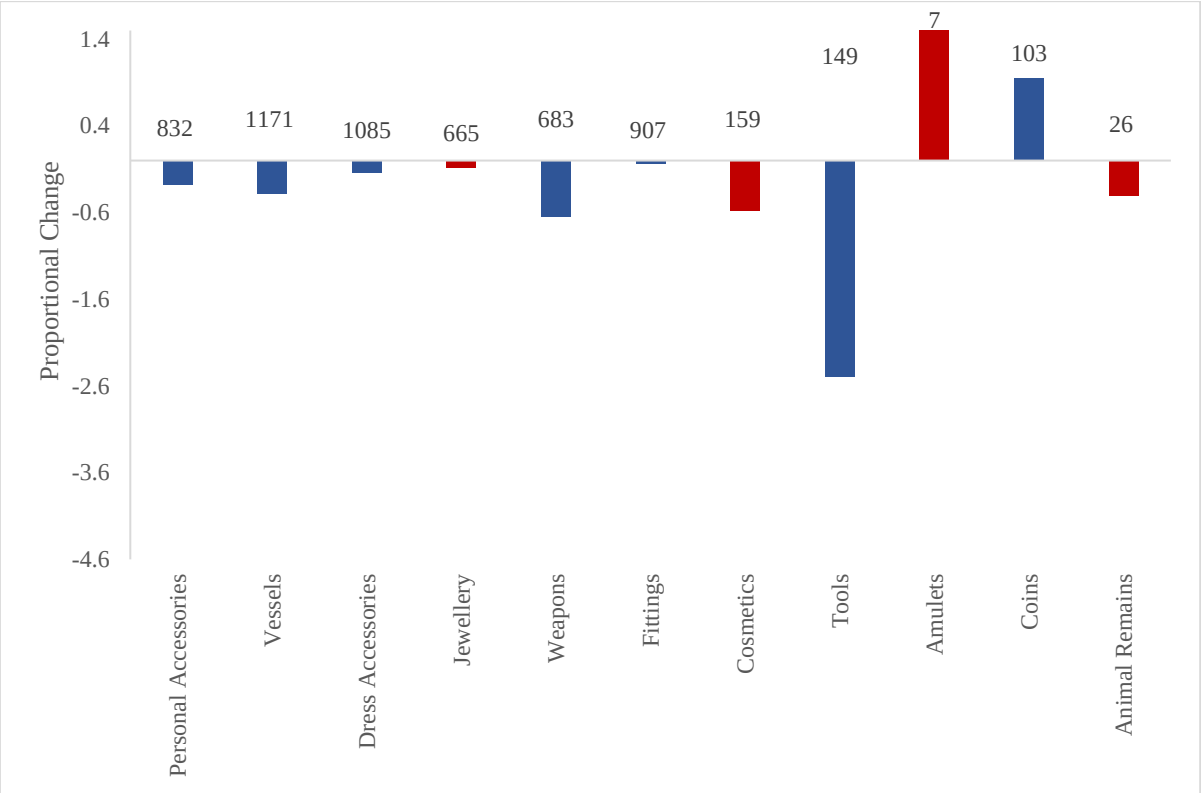

Figure 87: Proportional changes in different types of grave goods in the cemeteries in the Lower Rhine region between 620 and 750. Hashed bars= not statistically significant. Numbers indicate the total number of graves in that region containing those objects

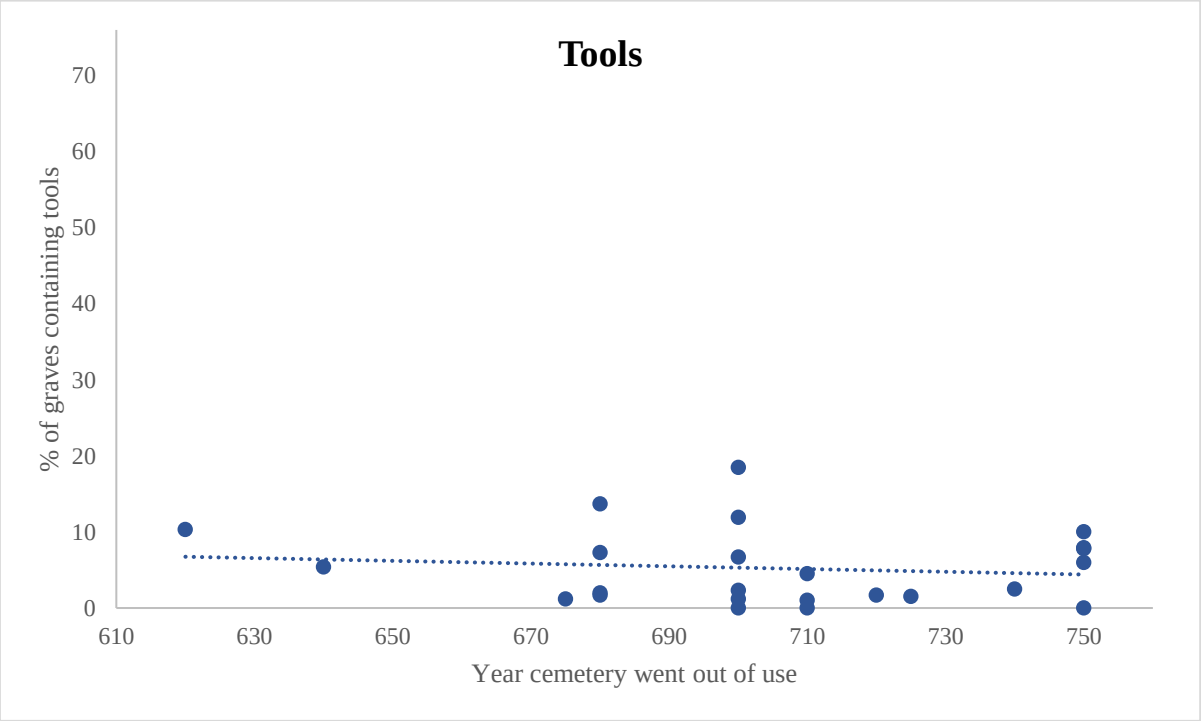

Figure 88: Trends in the use of tools in the Lower Rhine region. Linear trendline

Overall Trend		*Trend during period of furnished burial*	
R_s-value	*P-value*	*R_s-value*	*P-value*
-0.039	*0.007*	*-0.039*	*0.007*

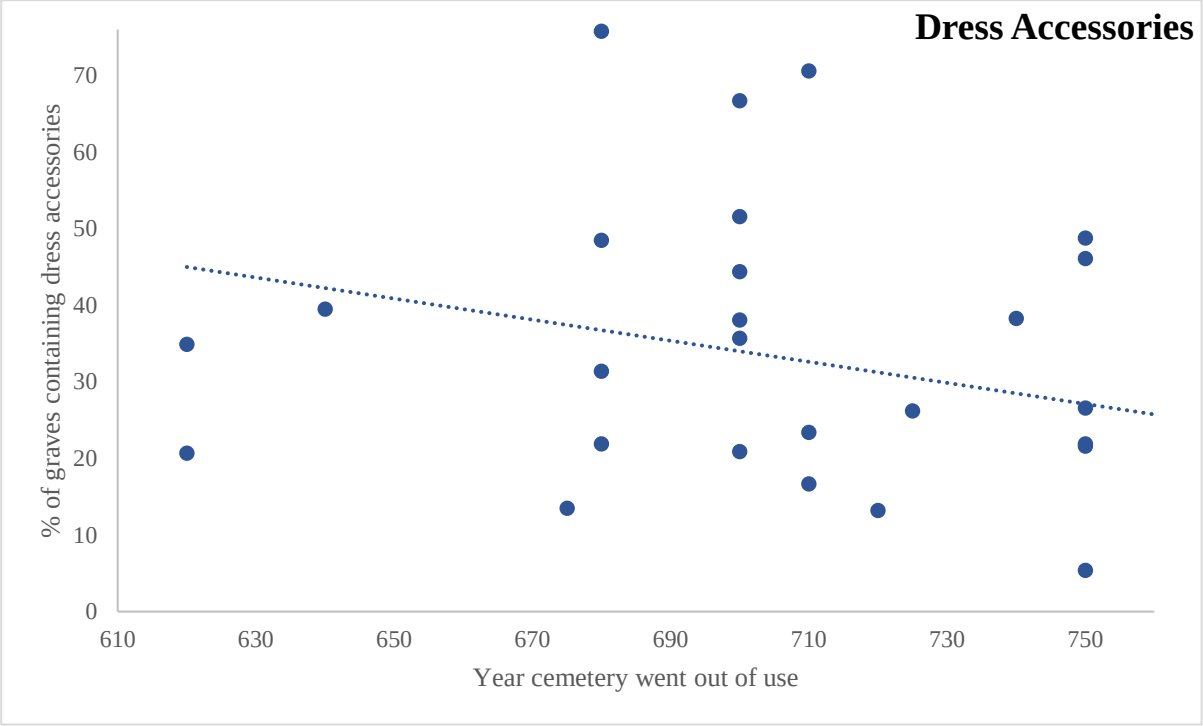

Figure 89: Trends in the use of dress accessories in the Lower Rhine region. Linear trendline

Overall Trend		*Trend during period of furnished burial*	
R_s-value	*P-value*	*R_s-value*	*P-value*
-0.101	*<0.0005*	*-0.087*	*<0.0005*

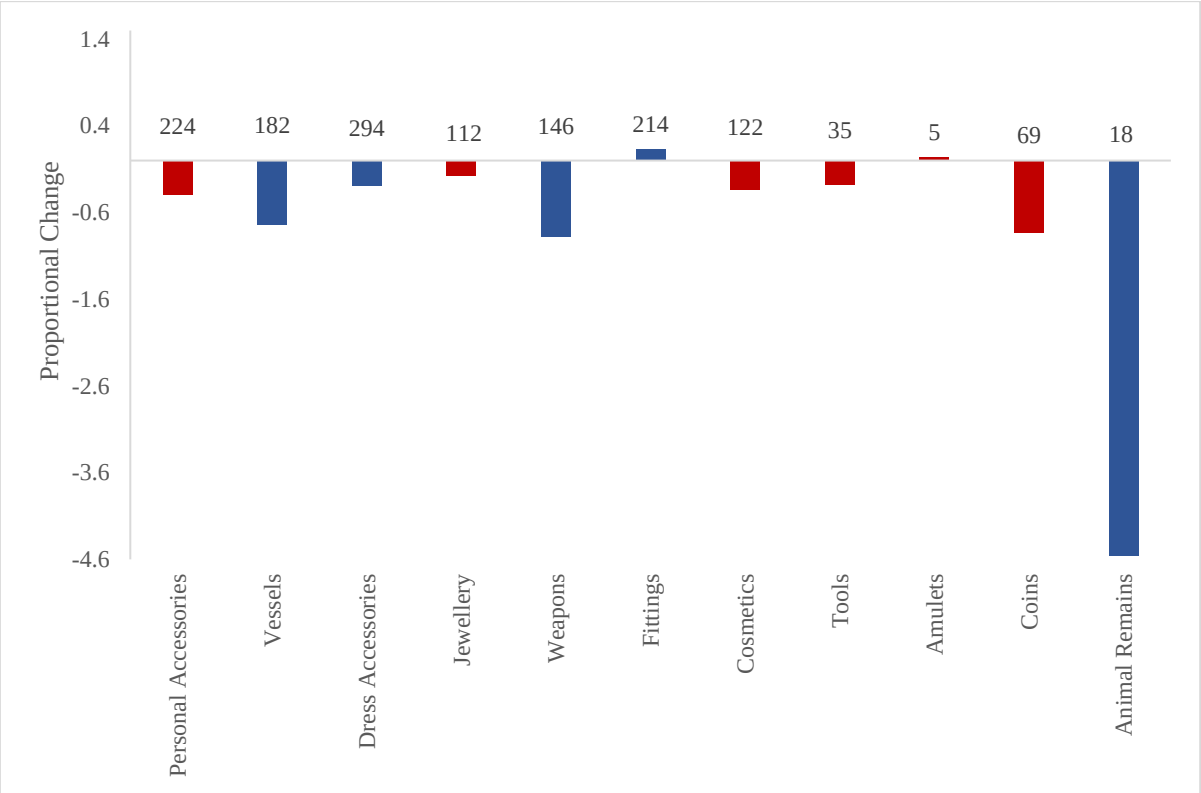

Figure 90: Proportional changes in different types of grave goods in the cemeteries in eastern Frankia between 620 and 710. Red = not statistically significant. Numbers indicate the total number of graves in that region containing those objects

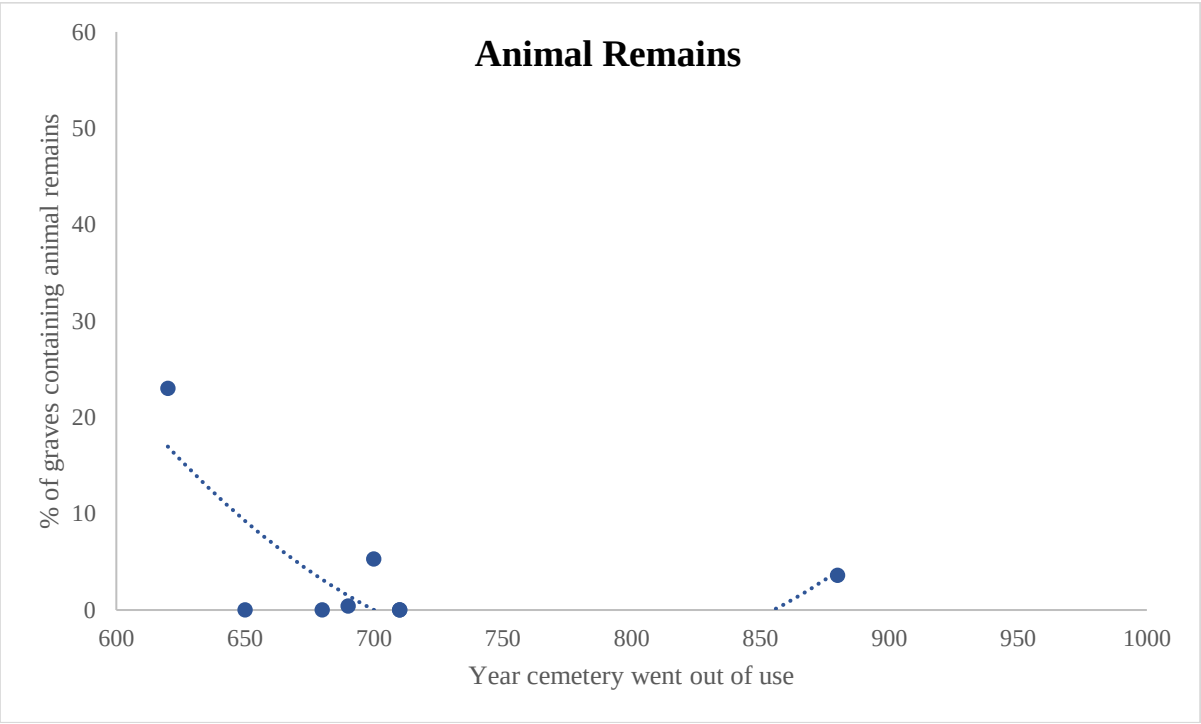

Figure 91: Trends in the use of animal remains in Eastern Frankia. Polynomial trendline order 2

R_s-value	*P-value*
-0.162	*<0.0005*

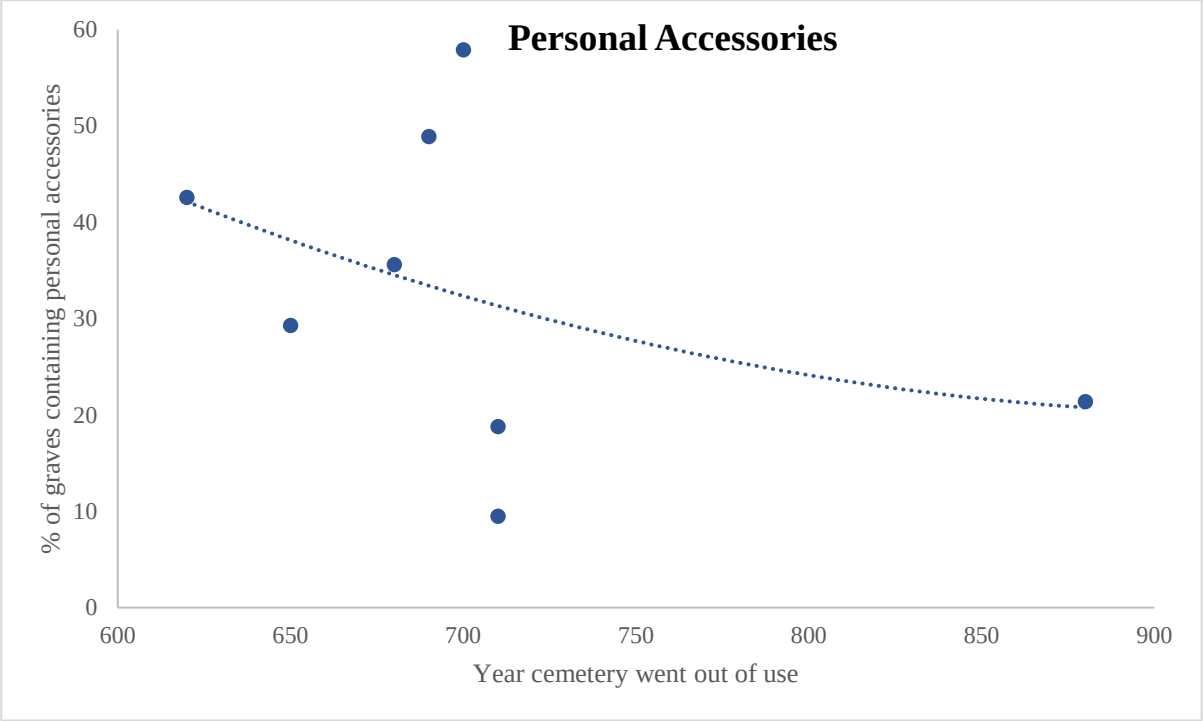

Figure 92: Trends in the use of personal accessories in eastern Frankia. Polynomial trendline order 2

R_s-value	*P-value*
-0.051	*0.176*

3.4.3. Summary

There were only slight changes to the ways in which grave goods were used in the Lower Rhine region prior to the mid eighth century. These changes were somewhat obscured by the length of time cemeteries were used for. This meant that there were no cemeteries which went out of use in the sixth century, and in the other regions studied here, it was those highly furnished sixth-century cemeteries which showed the most difference to the seventh-century sites.

In some ways, the burials of the Lower Rhine were similar to those of West Frankia; in neither region were there clear signs of unfurnished burial steadily replacing furnished burial; rather some communities in these regions seem to have been more inclined towards furnished burial than others, but existed simultaneously alongside them, without really influencing each other. The coastal region of Flanders has been described as having a fragmented identity, following Migration Period depopulation of the area (Djikstra and de Koning 2017, 53); while not directly overlapping with this region, the level of variability in the Lower Rhine could also be a reflection of these fragmented identities. Perhaps the existing variations in practice in this part of the world were one of the things which made it so resistant to the introduction

of unfurnished burial for so long; as existing variations made it less likely that communities would be influenced by the changing practices of their neighbours.

Statistical tests are of course hampered by small sample sizes, so these results may not be as reliable in this case of eastern Frankia as they were in the others, but the rate of change makes it seem more analogous to the cemeteries of southern Germany than the geographically closer region of the Lower Rhine. Few of the cemeteries studied by Halsall in his analyses of this region have been included here due to the quality of their dating evidence. He suggested that the presence of the Merovingian royal residence in this area makes it atypical, and not directly comparable to other parts of the Frankish world (Halsall 2010, 11). His analysis of these cemeteries suggests that jewellery and vessels became far less commonly deposited in the seventh century, and the range of weapons previously used was condensed (Halsall 1998, 337). While vessels and weapons were indeed some of the few object types to decrease in popularity, my study demonstrated no equivalent change in the use of jewellery. This may be a result of the small sample size; all of the cemeteries in this region which went out of use after 700 had fewer than 10% of graves containing jewellery. Halsall (1998, 337) interpreted this as a reduction in the display of gender in graves. The impact of gender on the changing use of grave goods will be discussed further in Chapter 4.

Key Trends in the Lower Rhine

- Furnished cemeteries have gone out of use by the mid eighth century
- Slight tendency towards lower grave good deposition in later cemeteries
- Decreases in most object types, except jewellery

Key Trends in Eastern Frankia

- Most furnished cemeteries went out of use at the end of the seventh century
- Later cemeteries more likely to be poorly furnished
- Decreases in dress accessories, vessels, weapons and animal remains

3.5. Across the Channel: Kent

It is well known that Kent had close cultural and political connections to the Frankish world, arguably more so than it did to the rest of England. It is not surprising, therefore, that the changes seen in Kentish cemeteries were remarkably similar to those of West Frankia, and to a lesser extent those of the Lower Rhine, given that we have seen the connections between these regions in terms of trading sites already in Chapter 2. The way in which the Kentish cemeteries changed contrasts sharply with the changes seen in the rest of Anglo-Saxon England.

Fig. 93 shows the Kentish cemeteries, which, compared to the Frankish ones, tended to be shorter lived. There was a small group of very short-lived cemeteries, lasting for only one phase of Hines and Bayliss's chronology[5]. There were very few post-seventh-century Kentish cemeteries suitable for analysis. This is a problem which affects almost every region, but which seems particularly acute here. Richardson (2005) provided a gazetteer of Kentish sites, including a list of unfurnished cemeteries, which he designated as being post-750. However, these were very small sites, often solitary burials. He assigned only three larger cemeteries to this later phase: Eccles, Eynsford, and Minster-in-Sheppey, the latter a church site, and the only church site in this sample. None of these cemeteries have been subject to scientific dating, but were assigned broadly to the seventh to tenth centuries because of their lack of grave goods. They were included in fig. 93 to give an indication of the overall pattern, but have not been included in any statistical analysis. There was once again, very little overlap between the cemeteries of the eighth century and those of the sixth and seventh, and there was only evidence from one cemetery, Breach Down, that it continued in use beyond Hines and Bayliss' terminus of 685.

[5] Risely, Bifrons, Beakesbourne, Lyminge

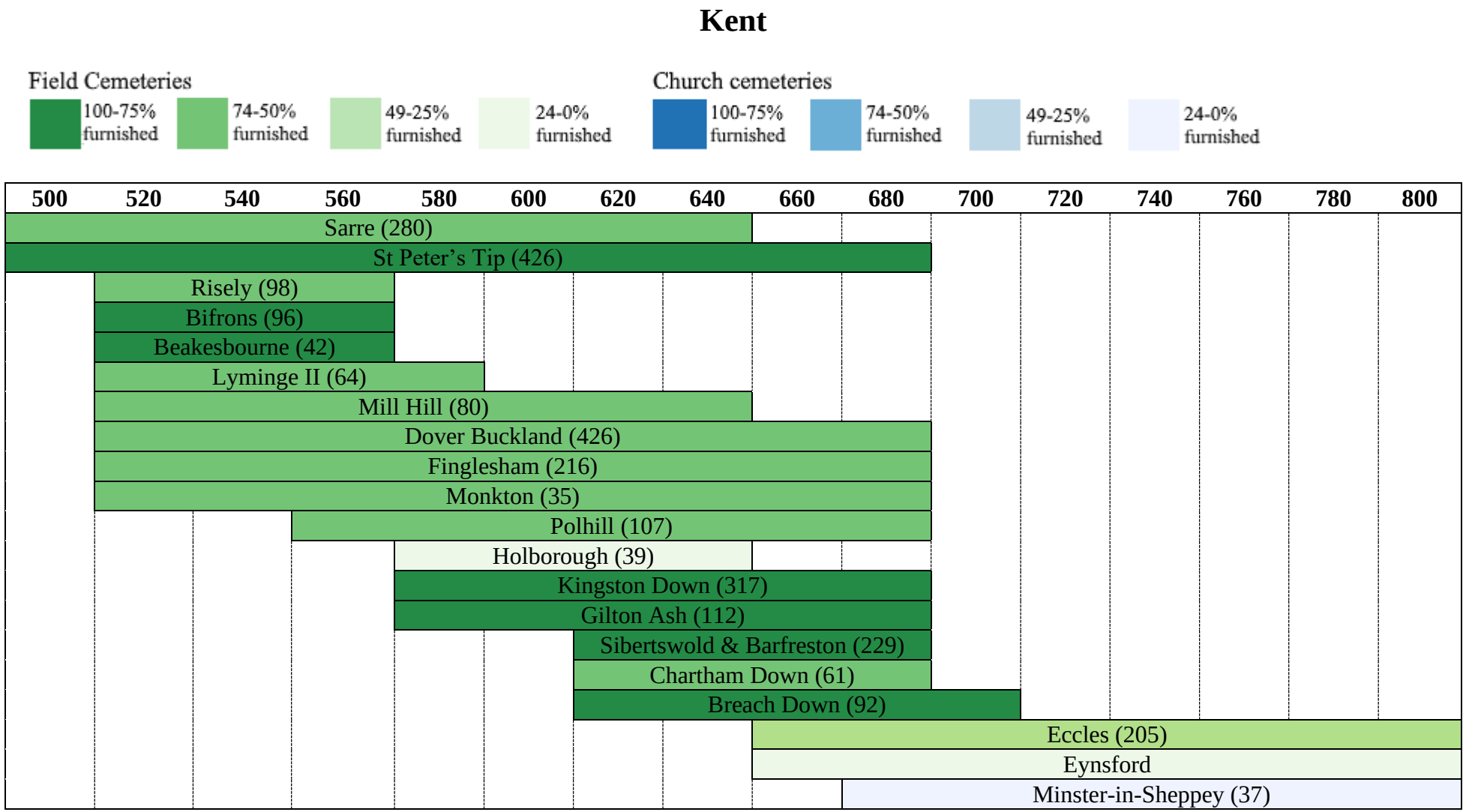

Figure 93: The lifespans of cemeteries in Kent. Number of graves in brackets

3.5.1. Numbers of Grave Goods

The average number of objects found in graves was higher than in the cemeteries of West Frankia, and was more similar to the levels of furnishing found in Saxon regions (see below), but there was no appreciable decrease in object use over time (fig. 95), nor was there any significant increase in the number of unfurnished graves over the same period. The fact that there were no furnished cemeteries post-700 shows that there was a transition from furnished to unfurnished burial which was contemporary with the rest of Europe. However, the lack of an appreciable prior decrease suggests that the change occurred much more suddenly here than it did elsewhere in England, similar to the pattern seen in West Frankia.

There was variation in grave good use between the cemeteries, with quite broad fluctuations in the average number of grave goods deposited, from less than one object per grave to almost four. The typical range deposited in graves also varies greatly between cemeteries (fig. 96), with no apparent relation to chronology. Nor were these differences due to geographical variation across Kent (fig. 94). While the few cemeteries excavated in western Kent were generally more poorly furnished than those of the east, the eastern cemeteries also show a great deal of variation, with relatively poor sites existing alongside relatively rich sites. In this, Kent appeared more similar to the Lower Rhine than to West Frankia, where the lack of a trend in grave good use was largely due to the consistency with which objects were deposited across cemeteries.

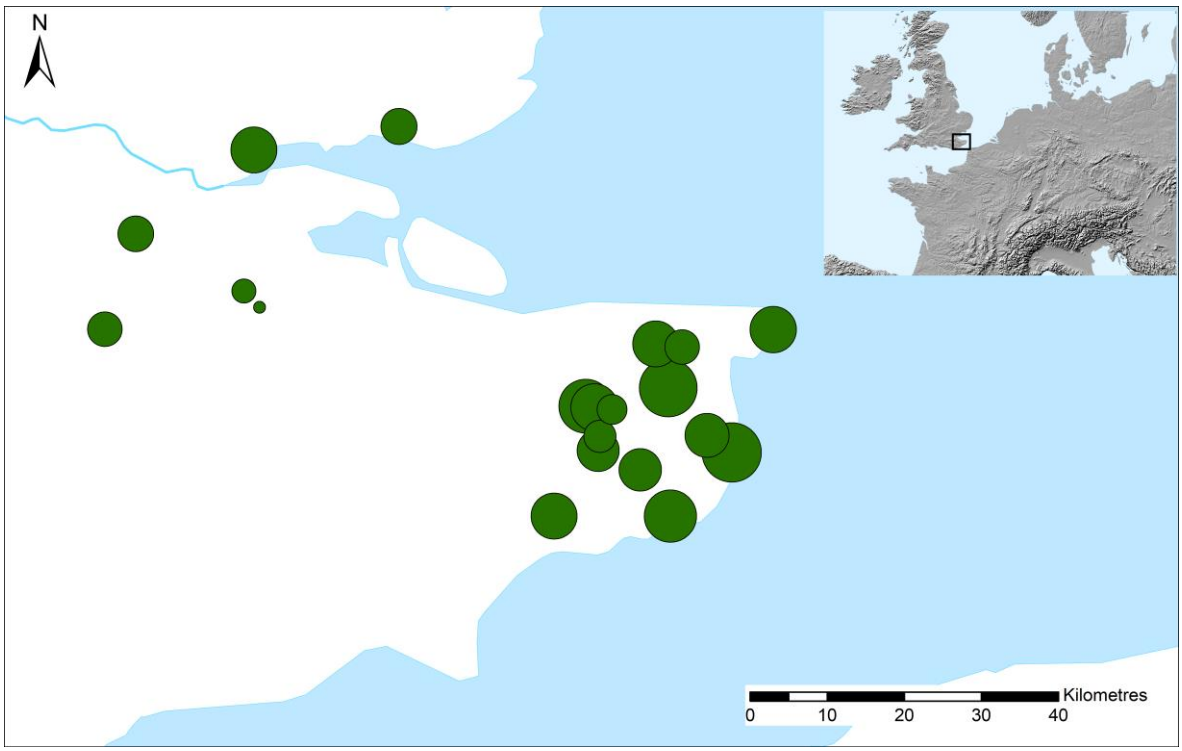

Figure 94: Cemeteries in Kent. The relative size of the dot is proportional to the average number of grave goods per cemetery

Kent

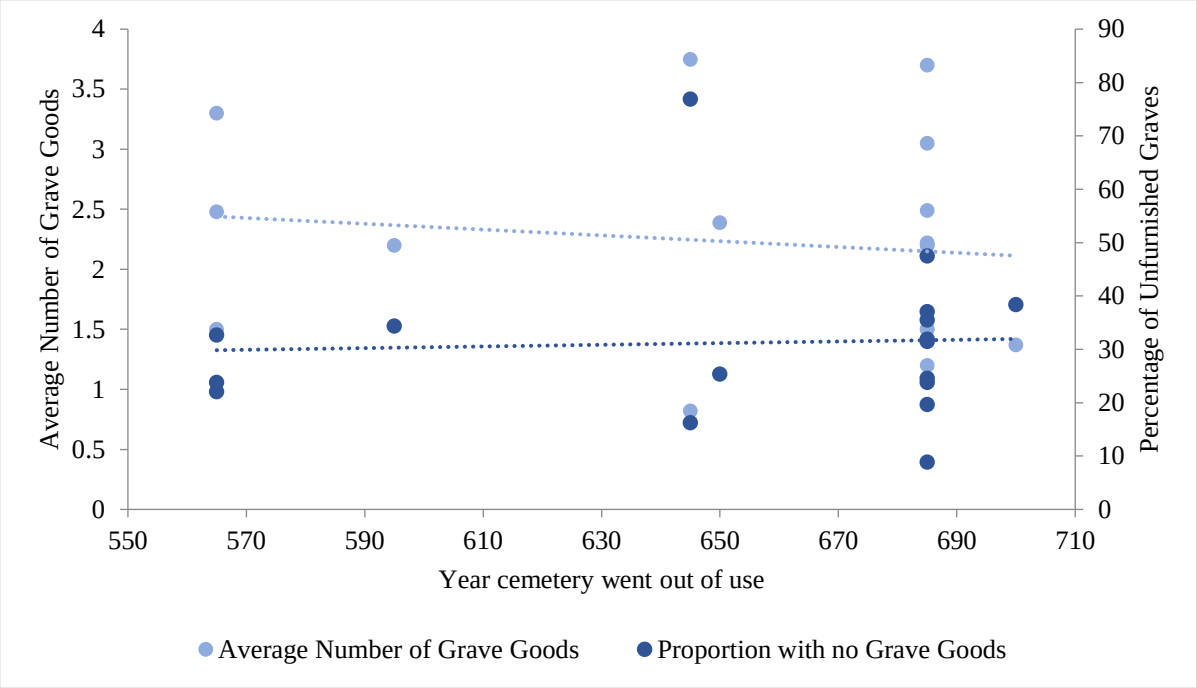

Figure 95: Trends in numbers of objects and unfurnished burials in Kent. Linear trendlines

	R_s-value	P-value
Number of Objects	*-0.040*	*0.042*
Unfurnished Burial	*0.001*	*0.958*

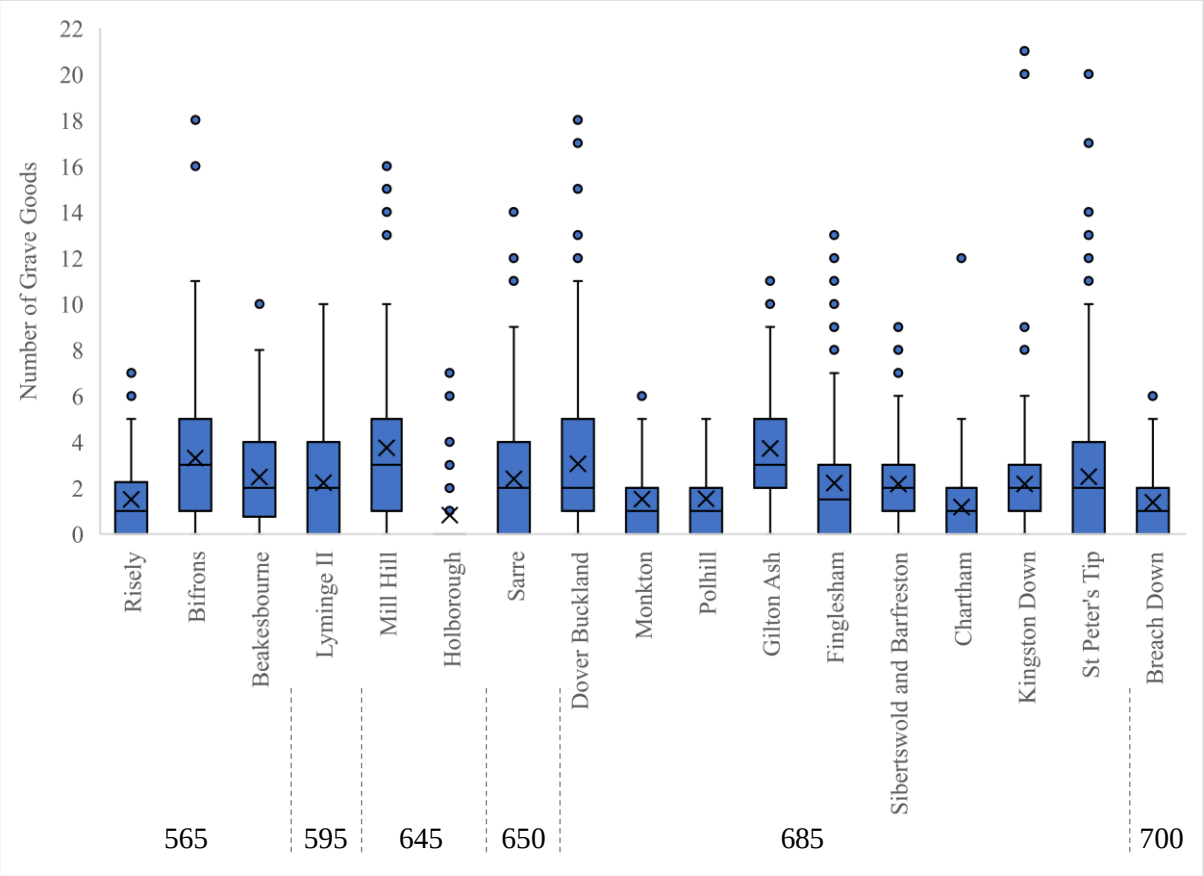

Figure 96: Box plot showing the numbers of grave goods in cemeteries in Kent. Date represents the year a cemetery went out of use

3.5.2. Types of Grave Goods

Kentish grave good use was not entirely static; although many different types of grave goods also saw no clear decline in their use, there were some changes in the types of objects favoured (fig. 97). The largest proportional change was seen in the use of amulets, which strongly decreased (fig. 98), and there were also smaller decreases in dress accessories and jewellery (fig. 99), while there was a statistically significant increase in the use of vessels (fig. 100). An increase in vessels was also one of the few statistically significant changes in the cemeteries of West Frankia. That a similar change is visible here provides further evidence of a shared funerary repertoire between Kent and the north of France.

Kent

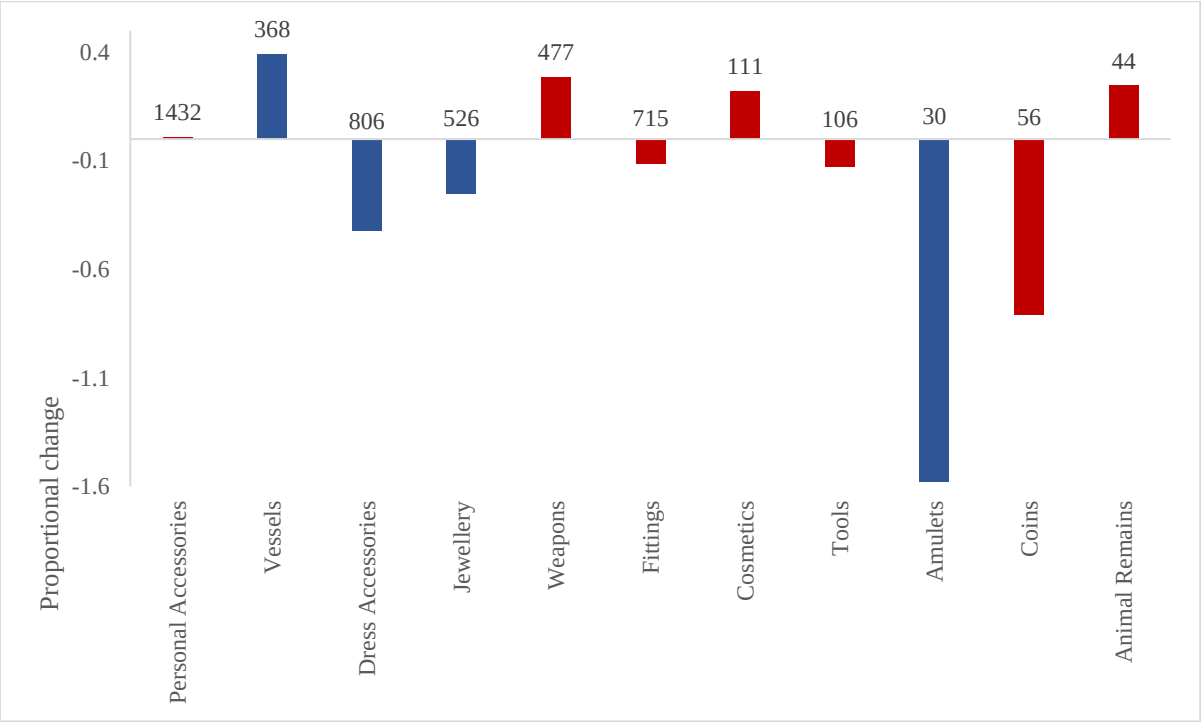

Figure 97: Proportional changes in different types of grave goods in the cemeteries in Kent between 565 and 685. Red = not statistically significant. Numbers indicate the total number of graves in that region containing those objects

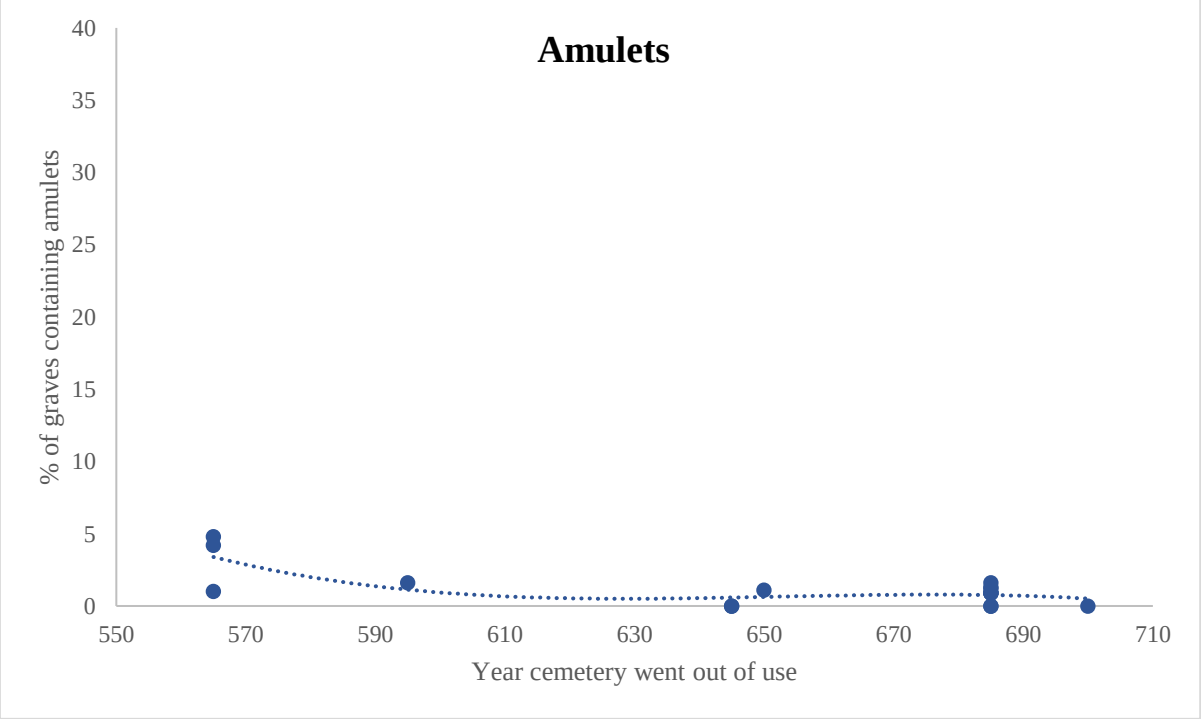

Figure 98: Trends in the use of amulets in Kent. Polynomial trendline order 3

Overall Trend	
R_s-value	*P-value*
-0.039	*0.039*

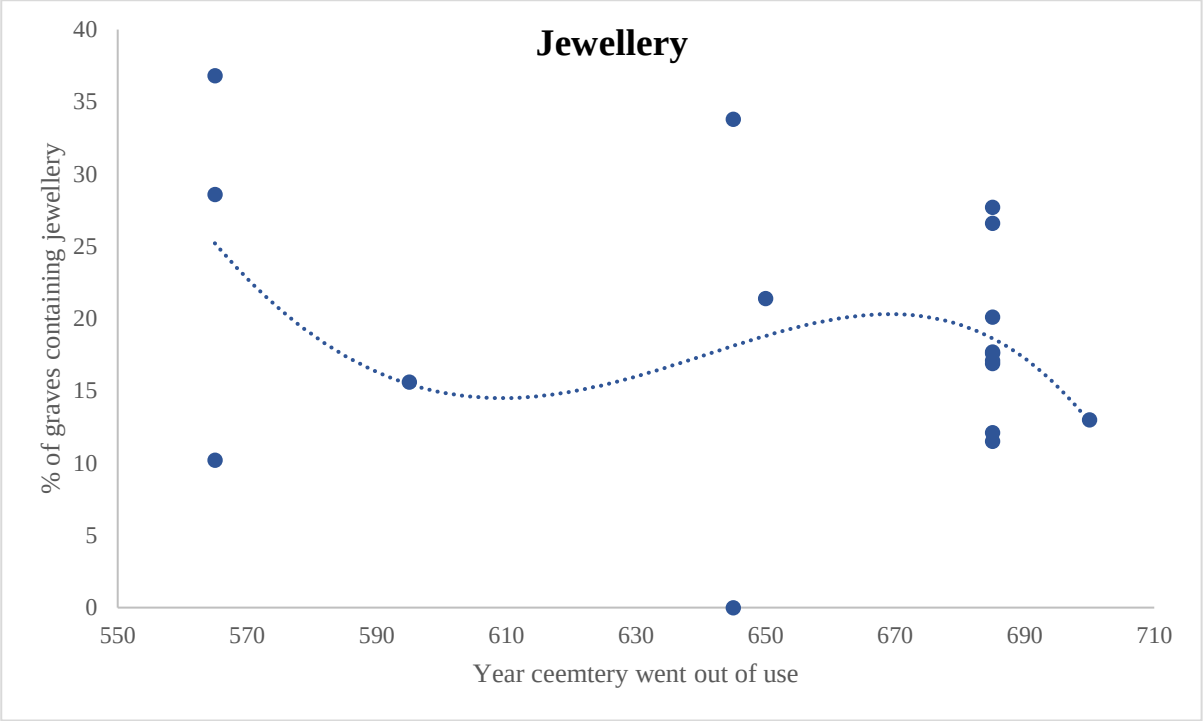

Figure 99: Trends in the use of jewellery in Kent. Polynomial trendline order 4

R_s-value	P-value
-0.042	0.026

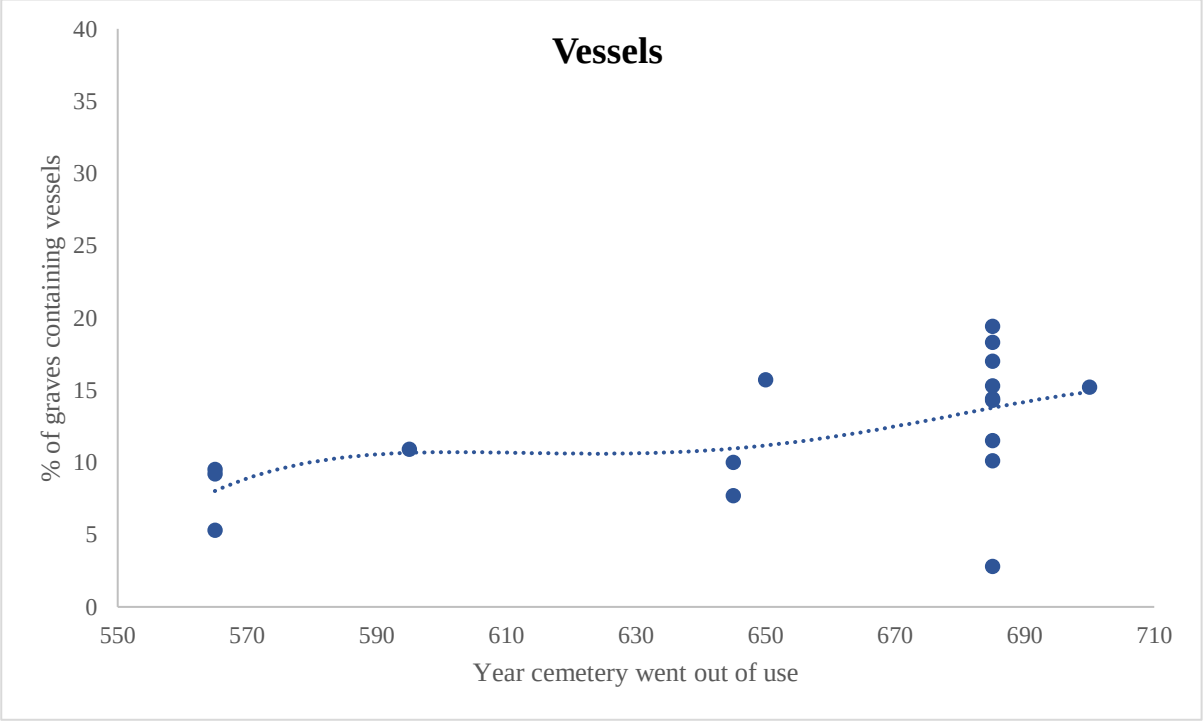

Figure 100: Trends in the use of vessels in Kent. Polynomial trendline order 4

R_s-value	P-value
0.038	0.044

3.5.3. Summary

Kent, therefore, appears to have been very similar to Frankia in the way grave good use changed in the region. Initially, practice was different in the two regions; Kent tended towards higher numbers of objects in graves than the Frankish coast did, but what the two regions had in common was the consistent use of grave goods over the same time period when, elsewhere, communities were gradually reducing their material investment in graves. Whereas the French cemeteries were all relatively consistent in their levels of furnishing, Kentish cemeteries did show considerable variation in how richly they were furnished. In terms of the types of grave goods being used, there was a statistically significant increase in vessels in both regions, and most categories showed no appreciable change, but there were differences, with Kent seeing slight decreases in dress accessories, jewellery, and amulets, changes which were not seen in France at the same time. This suggests that these two regions were politically and culturally intertwined, and were both resistant to change. Both preferred established traditions and acceptable levels of variation from those traditions. The shift towards unfurnished burial in Kent came right at the end of the process in England, with very little sign of changing practices beforehand, suggesting that it was only once pressure to conform with surrounding communities became overwhelming, that Kentish practices shifted to match them.

The relative conservatism of Kent has been noted in other studies; for example, Mui's study (2018, 114-115) of variation in body position in the grave showed that of all of England, Kent had some of the lowest levels of variation in body position, which could be linked to greater continuity in Romano-British burial practices. There was variation in the provision of grave goods between cemeteries, but the continuation of the practice later than in other regions suggests similar levels of conservatism.

However, there is evidence from some individual cemeteries that Kent was not entirely a static region; Sayer's study of the cemetery of Mill Hill, Deal, showed two distinct phases in wealthy burial, the second much more dominated by male weapon burials, which were also spatially distinct, and located under small barrows (fig. 101, Sayer 2009, 157, Sayer 2010, 78-79). A similarly clear distinction between the sixth- and seventh-century burials was noted in the cemetery of Finglesham, which also had a distinct plot created in the seventh century, including barrow burials, and more uniform grave good provision (Sayer 2009, 166). It is possible that even if levels of grave good provision did not change, there was some development in cemetery layout and organisation which suggests that Kent as a region was not immune to change.

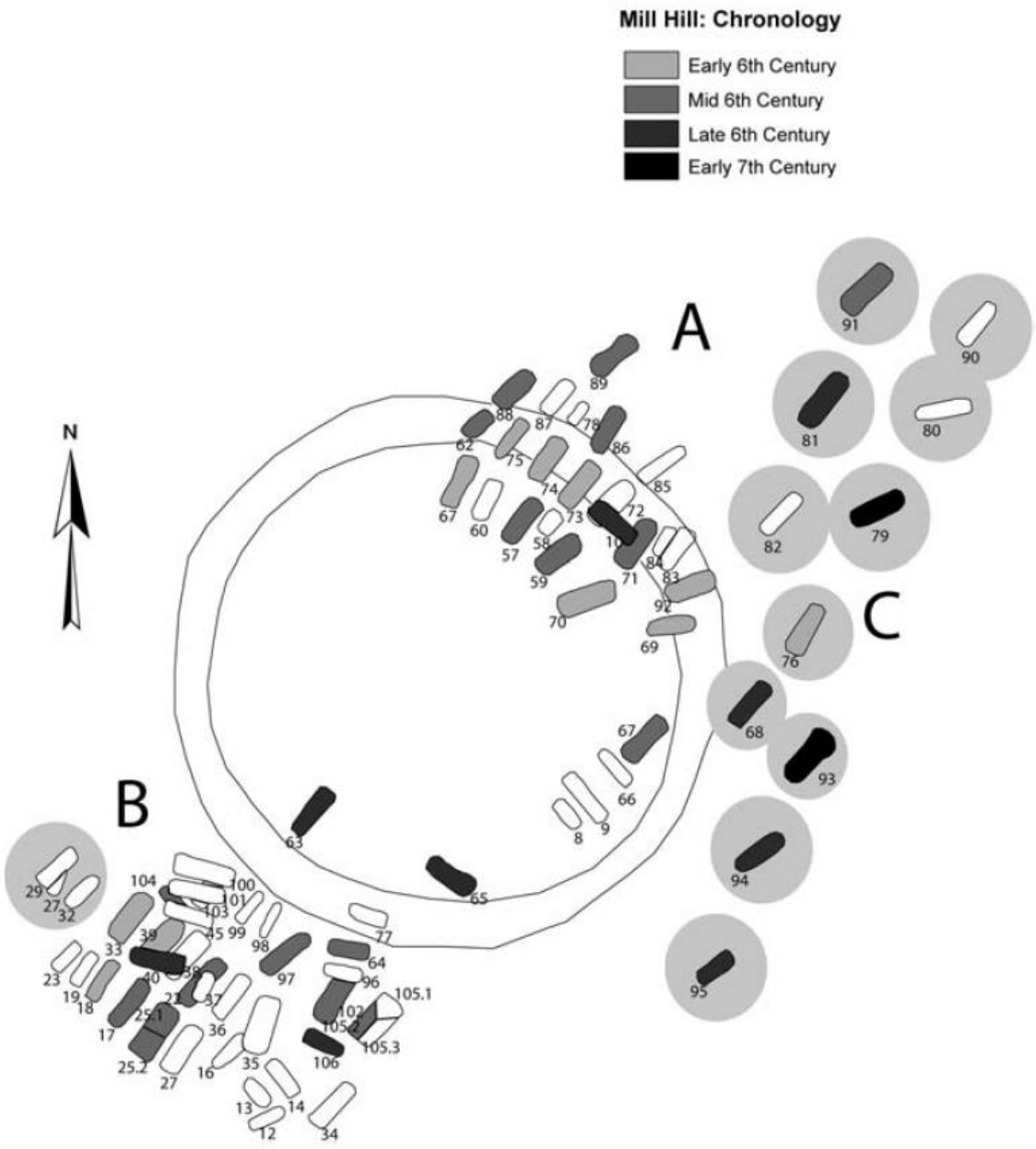

Figure 101: The layout of Mill Hill, showing the change in location of seventh-century burials. Republished with permission of Liverpool University Press from D. Sayer, 2009, "Laws, funerals and cemetery organisation: the seventh-century Kentish family"

Key Trends in Kent

- Most furnished cemeteries went out of use around 685
- Variable levels of furnishing between cemeteries, but no tendency towards poorly furnished burial later
- Decreases in the use of dress accessories, jewellery and amulets, but an increase in the use of vessels

3.6. The Rest of Anglo-Saxon England

Grave good provision in the other regions of Anglo-Saxon England, in Northumbria, East Anglia, and Saxon areas changed in quite a different way to Kent, and was much more in keeping with the broader trends seen in southern Germany.

Anglo-Saxon cemeteries were used in broadly similar ways across all the regions of England (fig. 102, fig. 103, fig. 104). The point at which furnished field cemeteries went out of use was around 685, as in Kent, following the chronology of Hines and Bayliss. Although we cannot rule out a period of unfurnished burial at the end of the use of these cemeteries, there was only concrete evidence for this, in the form of radiocarbon or coin dates, in a few instances in Anglian regions, and none of these cemeteries lasted beyond the start of the eighth century. Although the terminus may not have been as sudden as Hines and Bayliss suggest, there was still a relatively abrupt abandonment of these sites.

The longest-lived cemeteries were found in Anglian regions spanning the sixth and seventh centuries, while the Saxon cemeteries, like the Kentish ones, were shorter-lived, with very few lasting from the start of the sixth century to the seventh. In general, though, short-lived cemeteries were a feature of the seventh century. These sites are what would traditionally have been described as ‘final phase’, and on the whole have lower levels of furnishing than earlier sites. There were a few exceptions; Harford Farm in Norfolk still had 72% of graves furnished, while St Mary’s Stadium and Snell’s Corner were also unusually rich. It is clear that these ‘final phase’ cemeteries are not the only form of burial in the seventh century, and do not represent a transitional phase between large, fully-furnished cemeteries and unfurnished church cemeteries, as was once suggested (e.g. Hyslop 1963), but coincide with them both.

Nor were unfurnished cemeteries represented only by this ‘final phase’ model. While the majority of unfurnished cemeteries were these small, seventh-century examples, there were a few which were much longer lived, starting as early as the mid sixth century in Anglian regions. Most unfurnished cemeteries which lasted into the eighth century did not start being used before the seventh; other than these sites, there was very little continuity between the two centuries.

Church burials were relatively rare in England in this period. There were some examples from as early as the fifth century; Beckery Chapel in Glastonbury and St-Paul-in-the-Bail in Lincoln. Beckery Chapel is unusual in that it was a monastic cemetery, perhaps the earliest known in England, and therefore was not representative of normal practice at this time (R.

Brunning, pers.comm.). It was also one of the cemeteries furthest west in the sample, so may be more influenced by the mostly unfurnished burials of Cornwall, rather than the largely furnished cemeteries further east. It does demonstrate however, that the practice of unfurnished church burial was known in England as early as the fifth century, even if it was restricted to specific groups. Most churches, though, were not used as burial places before the mid seventh century, and even following the cessation of furnished burial they were by no means the only acceptable burial place. In contrast to some of the rich church burials on the continent, the church-based cemeteries of Anglo-Saxon England were almost entirely unfurnished, with only the occasional small token object being included. Halsall interprets this difference as a difference in chronology, with the churchyard cemeteries dating to after the abandonment of grave goods (Halsall 2010, 283), and after Christianity had become the dominant practice, something which happened later in England than it did on the rest of the continent. However, St-Paul-in-the-Bail was an unusual case of a church cemetery in continuous use throughout the sixth and seventh centuries, yet not containing any objects, despite being contemporary with the main period of furnished burial. Although this is only one example, it does suggest that church burial in England was not compatible with furnished burial in the same way it was on the continent.

Compared to other parts of England, there were relatively few Northumbrian cemeteries available to study. However, they appear quite similar to those in other Anglo-Saxon regions, with most being confined to the sixth to seventh centuries, and one example of a short-lived, poorly furnished seventh-century cemetery, in Streethouse Loftus. This region also saw two longer-lived cemeteries, Ailcy Hill, and St Paul-in-the-Bail, both sites which were in use continually from the sixth century to beyond the eighth, but had very minimal levels of furnishing.

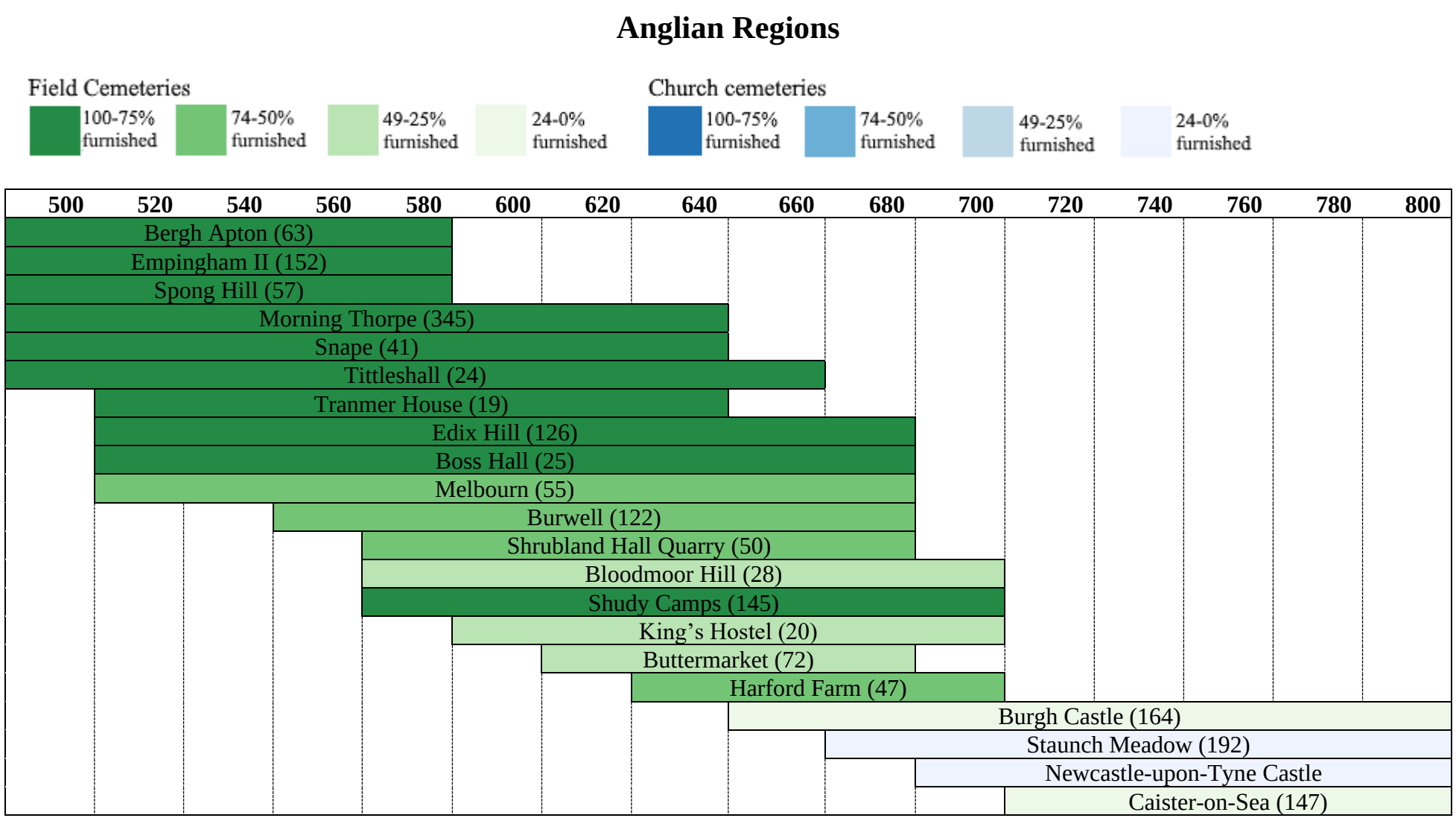

Figure 102: The lifespans of cemeteries in Anglian regions of England. Number of graves in brackets

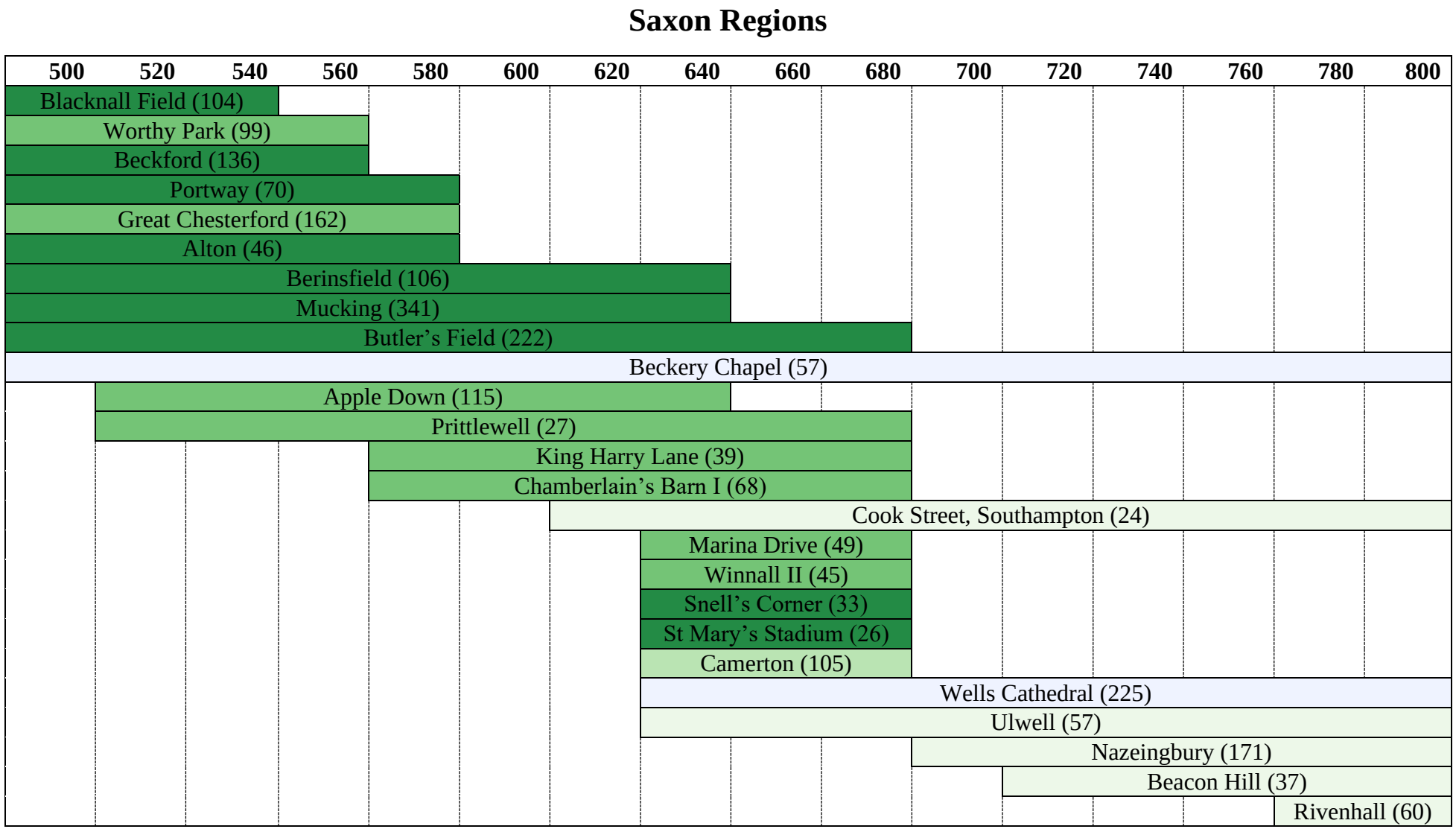

Figure 103: The lifespans of cemeteries in Saxon regions of England. Number of graves in brackets. See figure 102 for key

Northumbria

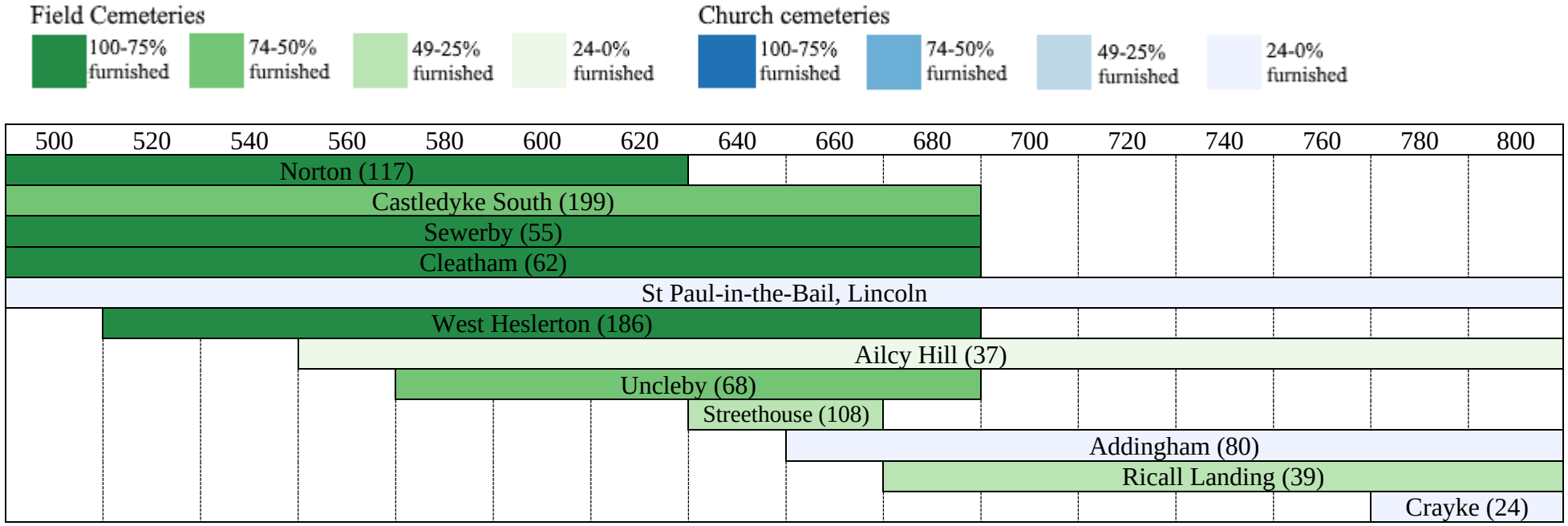

Figure 104: The lifespans of cemeteries in Northumbrian regions of England. Number of graves in brackets

3.6.1. Numbers of Grave Goods

There was a clear decrease in the use of grave goods in both Anglian and Saxon regions, which can be seen not only in the appearance of post-seventh-century unfurnished cemeteries, but within the main period of furnished burial itself (fig. 105, fig. 107). At the same time, proportions of unfurnished graves in those cemeteries also rose. There was more of a linear correlation within the Anglian cemeteries than the Saxon ones, suggesting that the transition in that region was more of a straightforward decline in use; almost all of the cemeteries which went out of use in 660 or later had lower average numbers of grave goods than earlier cemeteries. Only Boss Hall went out of use in 685 with a high number of grave goods, an average of 4.88 objects per grave. This was also true of the Saxon cemeteries, although here there was less of a clear difference between early and late cemeteries; rather, more poorly furnished sites were used alongside existing, richer sites, resulting in less of a clear decline, in a similar pattern to that observed in Alamannia.

There was also considerable variation in the range of objects used within cemeteries. We see narrow ranges of numbers of grave goods in later cemeteries; within Saxon regions there was a group of cemeteries which went out of use in 685, which have almost identical interquartile ranges[6] (fig. 108). Although there were still richly furnished graves in these cemeteries, they only rarely rivalled the richest graves found earlier. While the cemeteries in Anglian regions did not quite reach the same degree of standardisation, there was nonetheless a clear contraction in the range of grave good used, and the outliers in the later cemeteries again had reduced grave good deposition than the richest graves earlier (fig. 106).

This contradicts some of the theories of increasing polarisation of wealth; if this were the case, we might expect the range of grave good use to have remained high, or even increased, even if the mean number fell. Many of the richest 'princely' burials have been excluded here, as they are solitary burials, not part of a larger cemetery. Grave good use in the seventh century did become more standardised, however. The cemeteries from post-685, having no grave goods at all, are clearly the most similar to each other, but the process of standardising practice clearly began earlier. Interestingly, this was not visible in any of the regions of continental Europe, where the variability of practice lasted much later.

Northumbria also differed from the Anglian and Saxon regions, but we are hampered here by a relative lack of cemeteries. Over the entire study period, there was a clear decrease,

[6] Prittlewell, King Harry Lane, Chamberlain's Barn, Marina Drive, and Winall II

indicated by the presence of three unfurnished post-seventh-century cemeteries[7]. In the sixth and seventh centuries, statistical tests showed a significant increase in grave good use, and a significant decrease in the numbers of unfurnished graves (fig. 109). However, this is more of a quirk of the data set than an actual trend. There were only seven sixth- to seventh-century cemeteries in Northumbria, only two of which went out of use prior to 685, and because Streethouse, a relatively poorly furnished cemetery, went out of use fifteen years before the longer-lived cemeteries, this skewed the statistics. This can also be seen by looking at fig. 110, which shows relatively little variability among the well-furnished cemeteries of Northumbria, but instead highlights the group of much more poorly furnished cemeteries, including Streethouse Loftus. Even the 'rich' bed burial, grave 42, at Streethouse contained only five identifiable grave goods[8], which would not stand out in many better furnished cemeteries. There was too small a sample from this region to be able to say anything concrete about the changing use of grave good there.

[7] Addingham, Crayke, Ricall Landing
[8] Jewellery consisting of beads and three pendants, and a hairpin

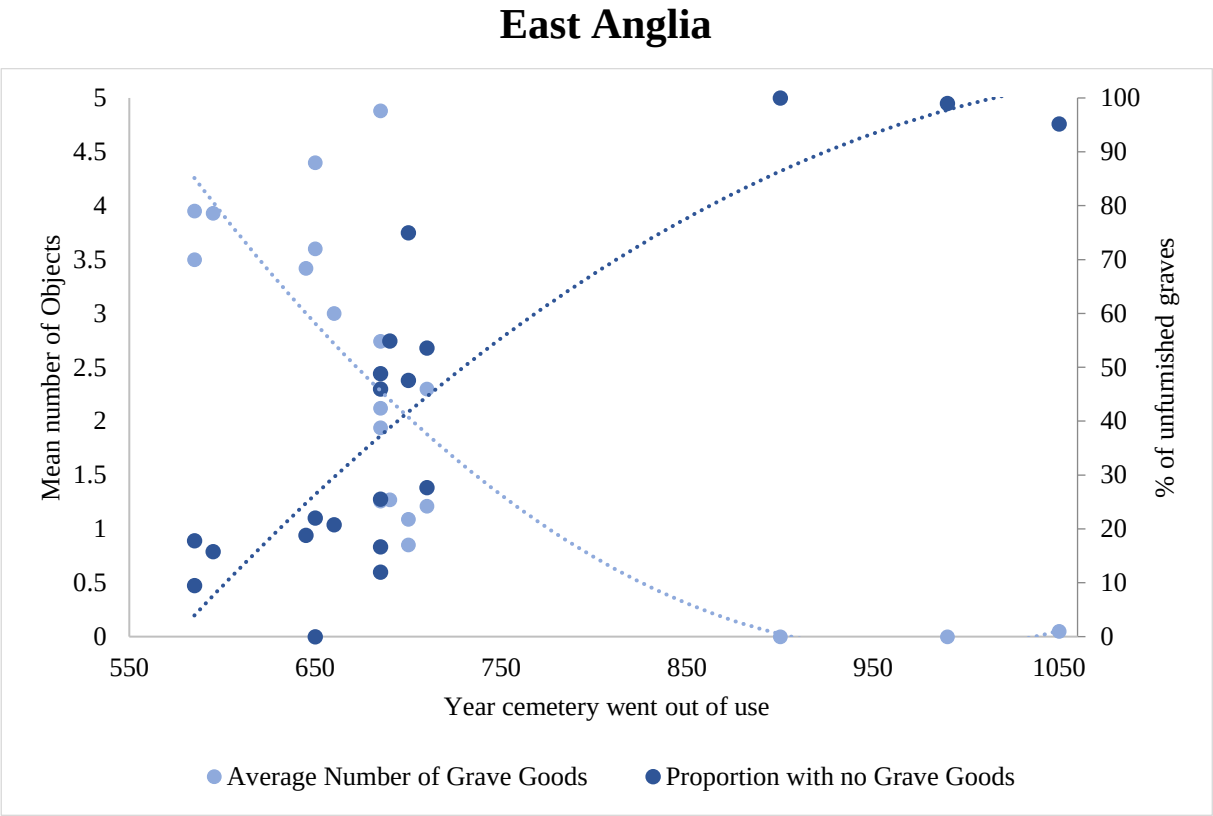

Figure 105: Trends in numbers of objects and unfurnished burials in East Anglia. Polynomial trendlines, order 2

	Overall Trend		*Trend during period of furnished burial*	
	R_s-value	*P-value*	*R_s-value*	*P-value*
Number of Objects	*-0.608*	*<0.0005*	*-0.330*	*<0.0005*
Unfurnished Burial	*0.519*	*<0.0005*	*0.227*	*<0.0005*

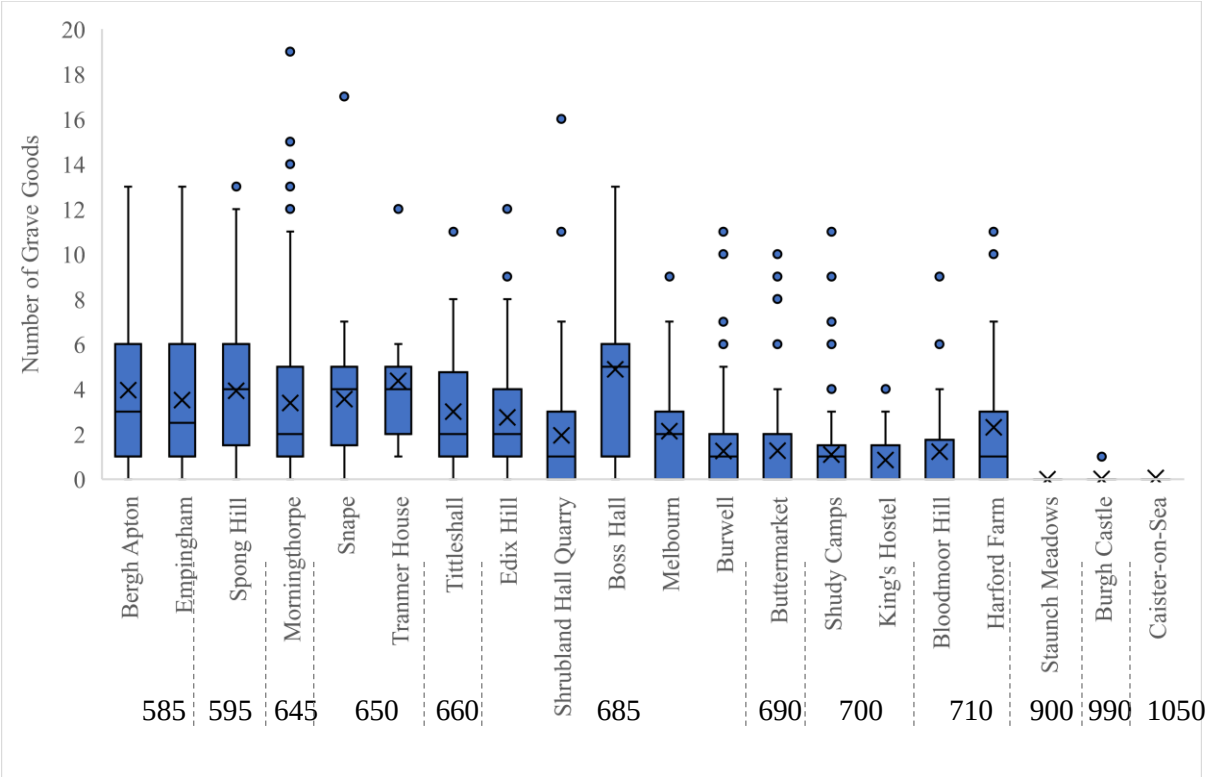

Figure 106: Box plot showing the numbers of grave goods in Anglian cemeteries. Date represents the year a cemetery went out of use

Saxon Regions

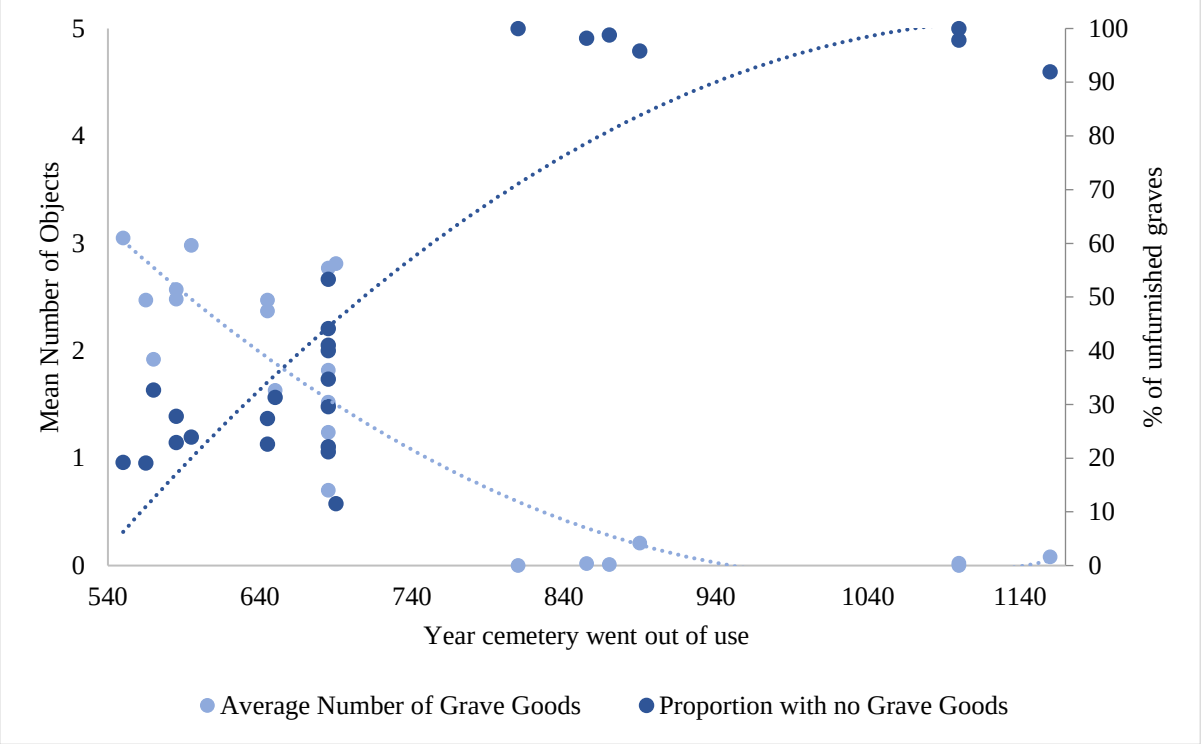

Figure 107: Trends in numbers of objects and unfurnished burials in Saxon regions. Polynomial trendline order 2

	Overall Trend		*Trend during period of furnished burial*	
	R_s-value	*P-value*	*R_s-value*	*P-value*
Number of Objects	*-0.507*	*<0.0005*	*-0.140*	*<0.0005*
Unfurnished Burial	*0.450*	*<0.0005*	*0.077*	*<0.0005*

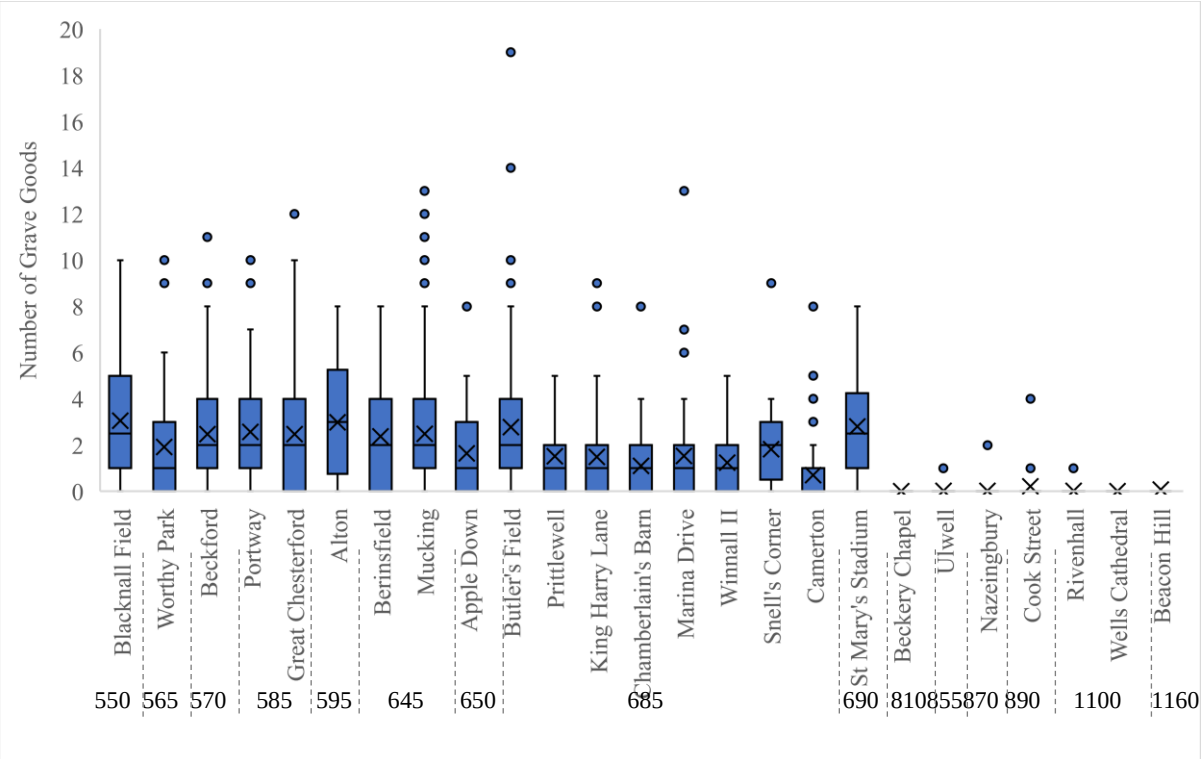

Figure 108: Box plot showing the numbers of grave goods in Saxon cemeteries. Date represents the year a cemetery went out of use

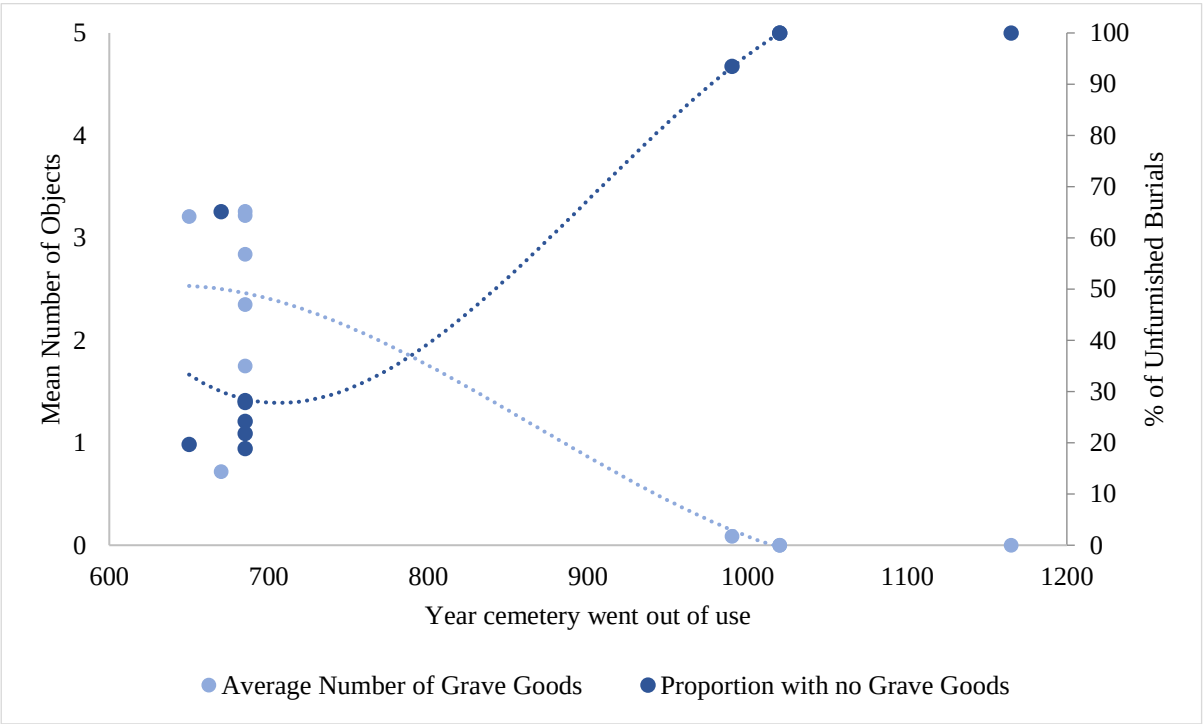

Figure 109: Trends in numbers of objects and unfurnished burials in Northumbria. Polynomial trendline order 2

	Overall Trend		*Trend during period of furnished burial*	
	R_s-value	*P-value*	*R_s-value*	*P-value*
Number of Objects	*-0.317*	*<0.0005*	*0.110*	*0.002*
Unfurnished Burial	*0.329*	*<0.0005*	*-0.123*	*<0.0005*

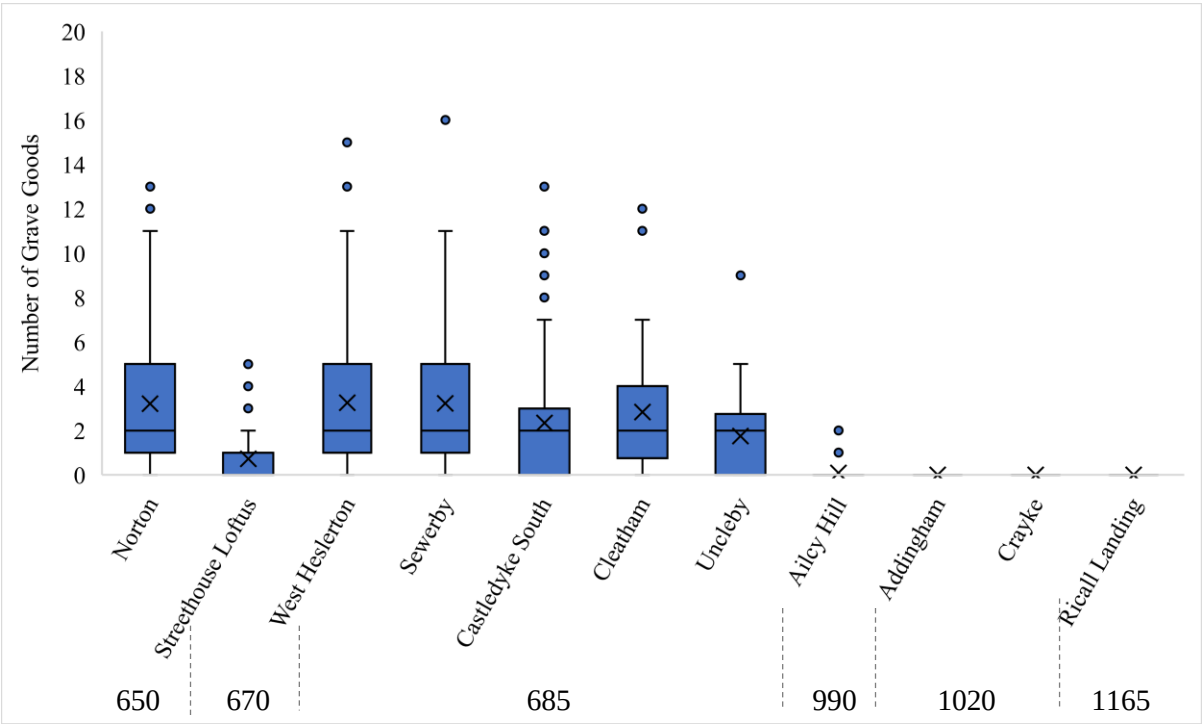

Figure 110: Box plot showing the numbers of grave goods in Northumbrian cemeteries. Date represents the year a cemetery went out of use

3.6.2. Types of Grave Goods

Within the Anglian cemeteries, there were clear statistically significant decreases in most types of object, though the rarer objects, cosmetics, tools, amulets, coins, and animal remains, showed no such change (fig. 111). Of the object types which did significantly decrease, vessels showed the largest proportional change (fig. 112), while personal accessories, despite being one of the largest categories of objects, showed the smallest proportional decrease (fig. 113).

The proportional changes seen in Saxon regions were smaller than those in Anglian regions, with two categories, tools and amulets in fact showing a statistically significant increase over the course of the sixth and seventh centuries (fig. 114). The majority of other object types decreased, and the largest proportional decrease was in cosmetics (fig. 116). Coins again showed no significant change, and neither did personal accessories (fig. 115).

Given the poor sample of cemeteries from Northumbria, it is difficult to say how important any of the observed changes in grave goods were there. All of the statistically significant changes were increases, as the overall number of objects were, but as already indicated this is unlikely to be a reliable pattern (fig. 117). Northumbria will, therefore, be mostly excluded from the general discussion, as the trends observed there were more a product of the nature of the data set than any past reality.

East Anglia

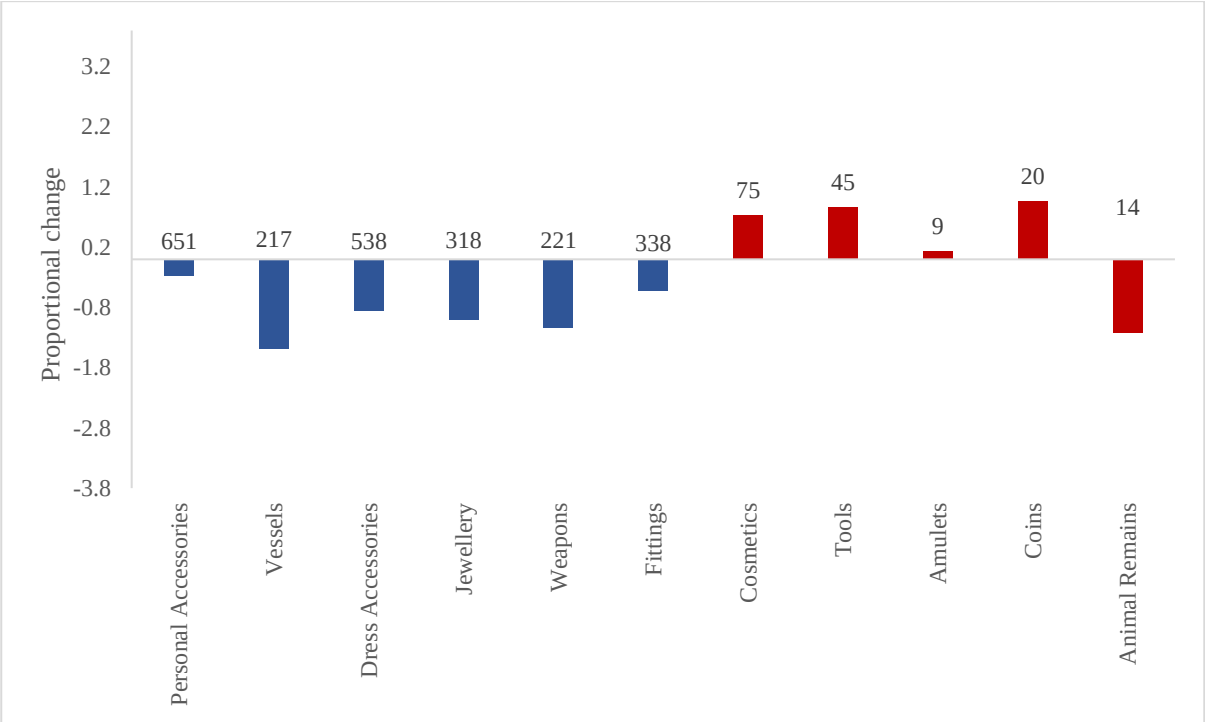

Figure 111: Proportional changes in different types of grave goods in Anglian cemeteries between 585 and 685. Hashed bars= not statistically significant. Numbers indicate the total number of graves in that region containing those objects

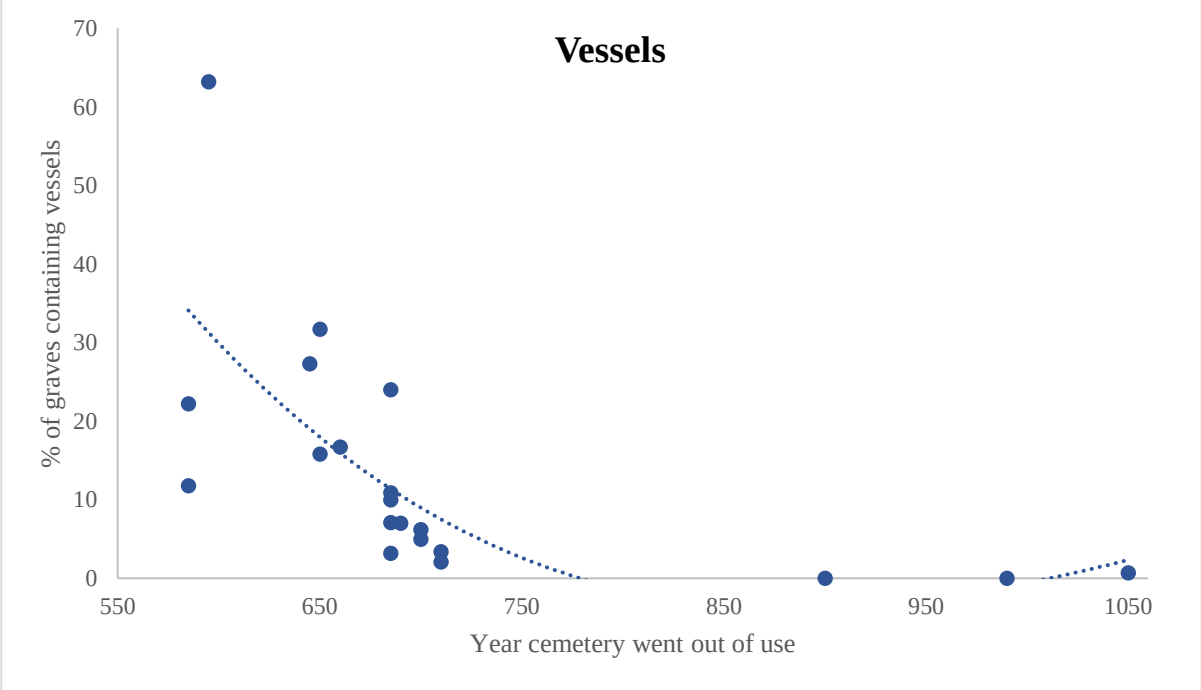

Figure 112: Trends in the use of vessels in Anglian cemeteries. Polynomial trendline order 3

Overall Trend		*Trend during period of furnished burial*	
R_s-value	*P-value*	*R_s-value*	*P-value*
-0.263	*<0.0005*	*-0.199*	*<0.0005*

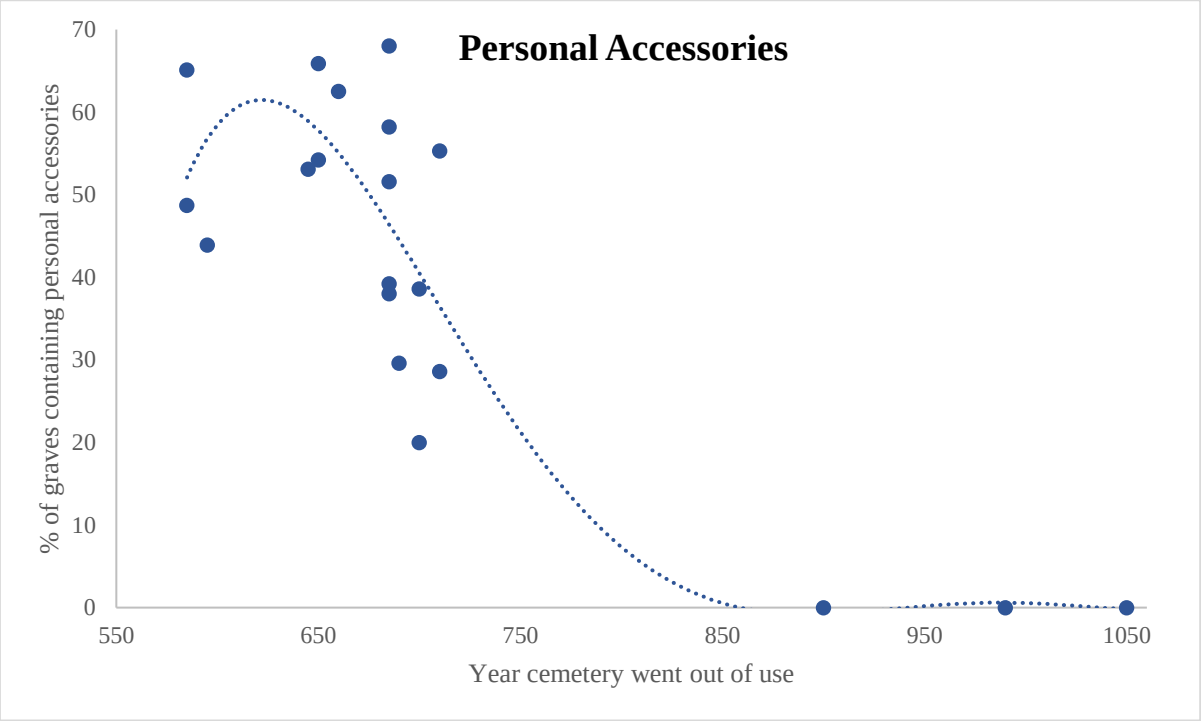

Figure 113: Trends in the use of personal accessories in Anglian cemeteries. Polynomial trendline order 5

Overall Trend		*Trend during period of furnished burial*	
R_s-value	*P-value*	*R_s-value*	*P-value*
-0.347	*<0.0005*	*-0.090*	*<0.0005*

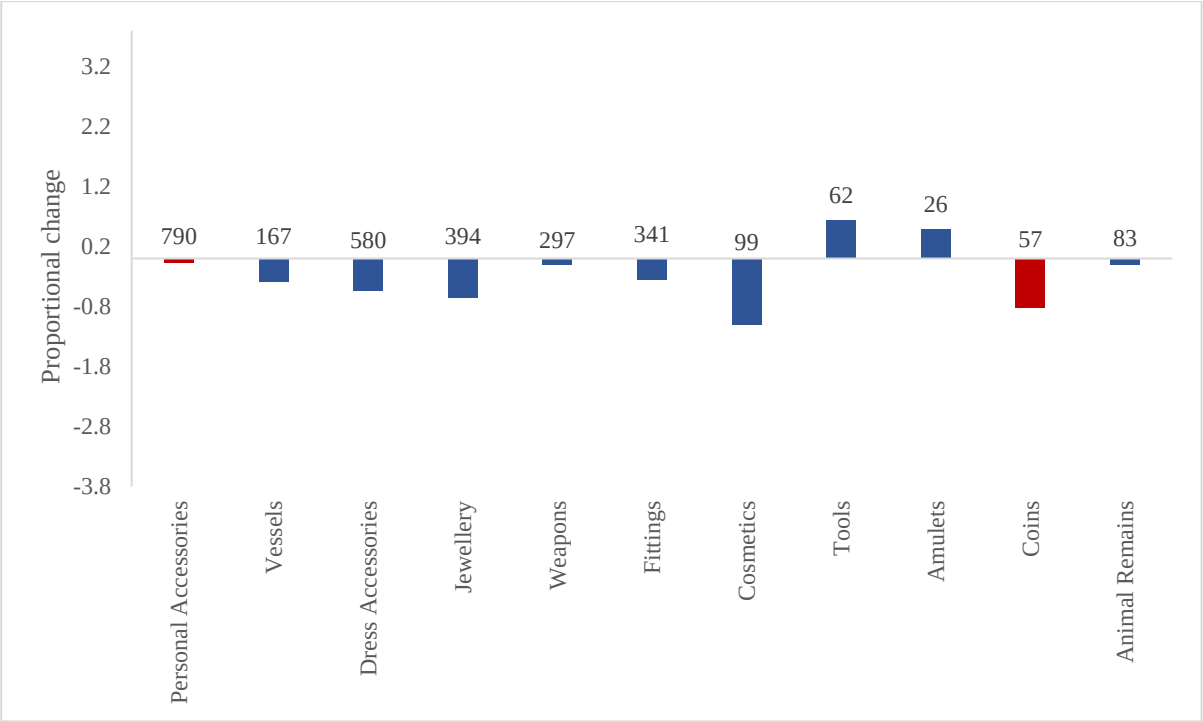

Figure 114: Proportional changes in different types of grave goods in Saxon cemeteries. Hashed bars= not statistically significant. Numbers indicate the total number of graves in that region containing those objects

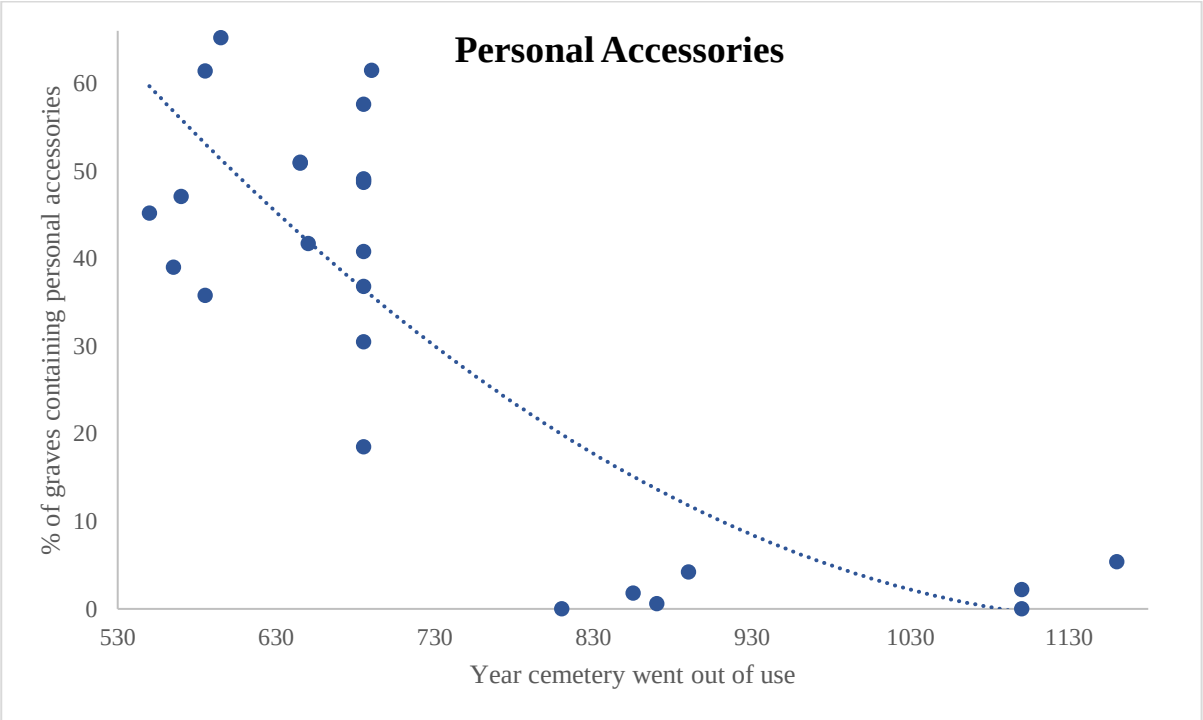

Figure 115: Trends in the use of personal accessories in Saxon cemeteries. Polynomial trendline order 2

Overall Trend		*Trend during period of furnished burial*	
R_s-value	*P-value*	*R_s-value*	*P-value*
-0.279	*<0.0005*	*-0.006*	*0.758*

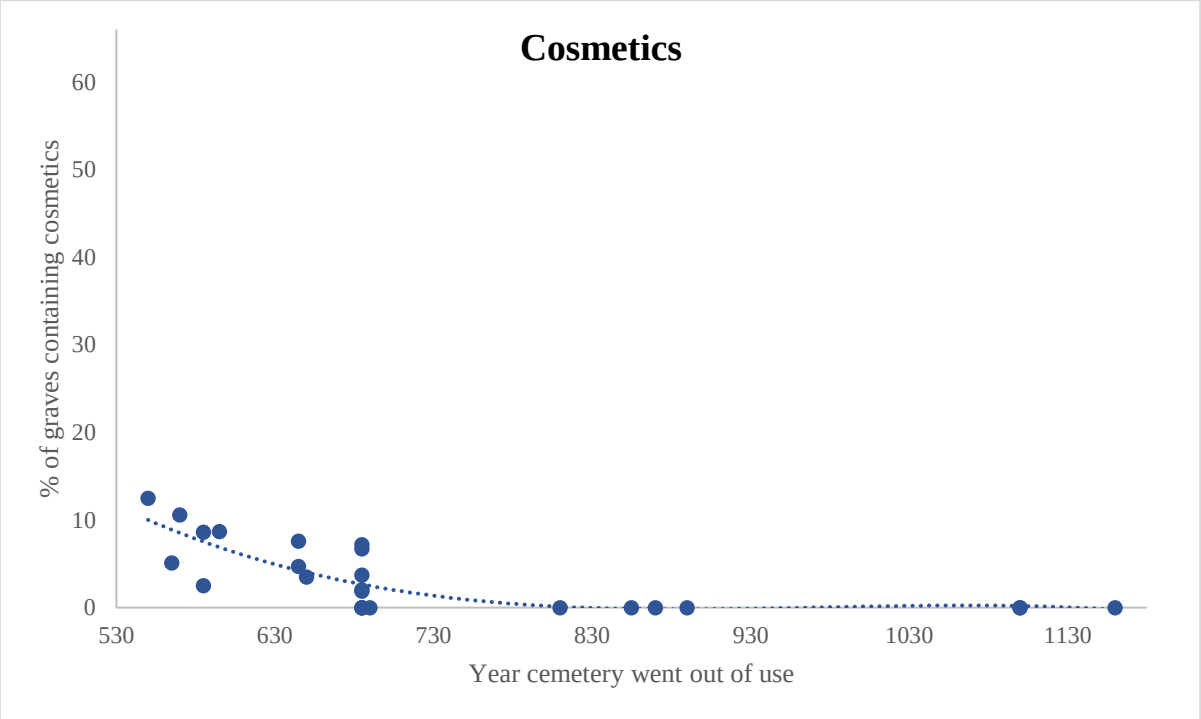

Figure 116: Trends in the use of cosmetics in Saxon cemeteries. Polynomial trendline order 3

Overall Trend		*Trend during period of furnished burial*	
R_s-value	*P-value*	*R_s-value*	*P-value*
-0.123	*<0.0005*	*-0.067*	*0.002*

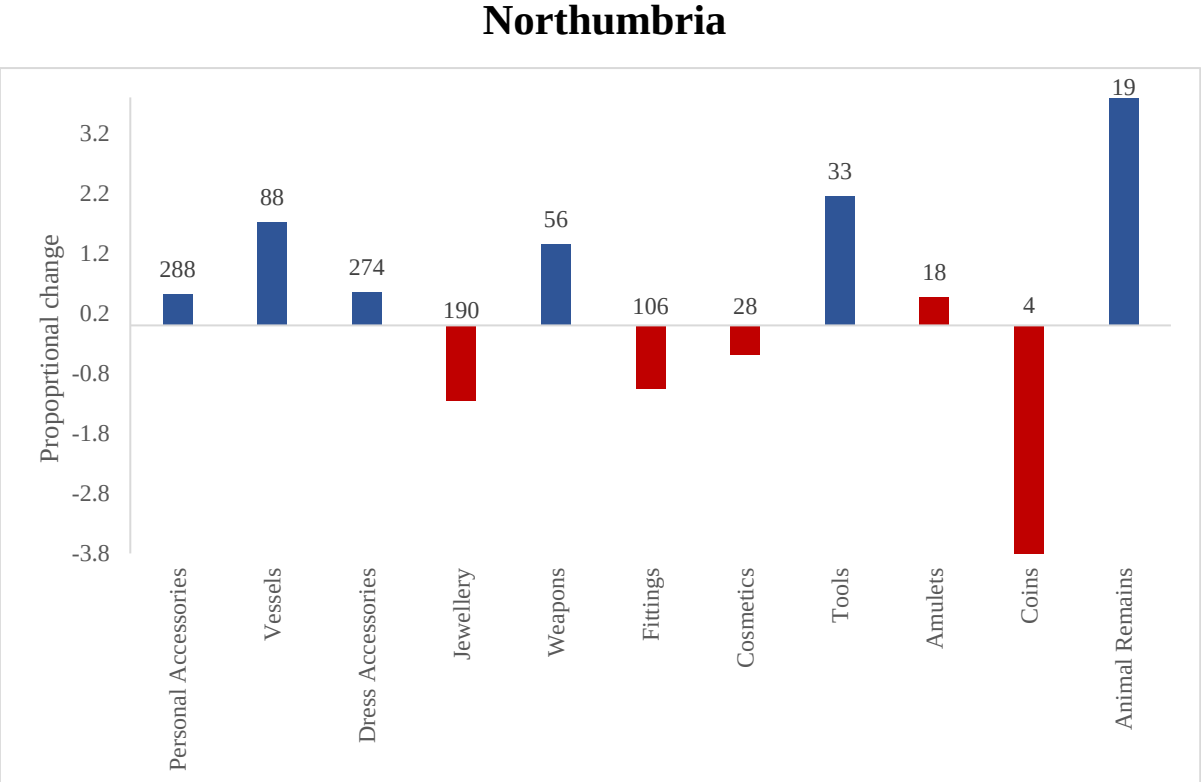

Figure 117: Proportional changes in different types of grave goods in Northumbrian cemeteries between 650 and 685. Hashed bars= not statistically significant. Numbers indicate the total number of graves in that region containing those objects

3.6.3. Summary

The changes seen in the rest of Anglo-Saxon England were distinct from those of Kent; indeed, they were also distinct from those of their nearest neighbours in West Frankia and the Lower Rhine, the places which we know were economically most connected to the rest of England through trade. The changes seen in Northumbria can largely be dismissed as not reflecting reality, but were instead a product of the small data set. Northumbria also had connections to the Frankish world, as well as Kent (Hamerow 2016, 436), and so it is possible that some Frankish influence would be visible there. The changes seen in Anglian and Saxon areas, were more reminiscent of those seen in Alamannia. We see the introduction of poorly furnished cemeteries which existed alongside more richly furnished ones, and the decreasing use of most categories of objects.

Although the general trend was for objects to decrease in frequency over time, there were also some types of object which became more common before they finally vanished from graves post-685. These include tools, and, in Saxon regions, amulets and animal remains. None of these objects become particularly common, never being found in more than 15% of graves in any particular cemetery. In the case of amulets, this can almost certainly be explained by the appearance of 'work-boxes', a class of object once thought to be a domestic object, but now more commonly considered an early form of Christian reliquary (Hills 2011a). These objects appear only in phase AS-FE, from 625-685, and, while never very common, their appearance most likely accounts for the increase seen in amulets, in the same way that the introduction of *Goldblattkreuze* was responsible for the increase in amulet use in Bavaria.

Key Trends in Anglian areas

- Furnished cemeteries all went out of use by the end of the seventh century
- Later cemeteries more likely to be poorly furnished
- Decreases in all common object categories.

Key Trends in Saxon areas

- Furnished cemeteries all went out of use by 685
- Later cemeteries more likely to be poorly furnished
- Decreases in all object categories except coins and personal accessories

Key Trends in Northumbria

- Furnished cemeteries all went out of use by 685
- Within the period of furnished burial, later cemeteries more likely to be richly furnished.
- Increases in most common object types except for jewellery
- Small sample sizes mean that these trends are most likely not a reflection of reality

3.7. Discussion: Cemeteries, Grave Goods, and Possession

3.7.1. Summary of regional trends

What this analysis has highlighted more than anything else is the sheer amount of variation in how the societies of early medieval Europe progressed from mostly furnished to mostly unfurnished burial. Although there were several broad trends which can be highlighted, there were also signs that communities were able to exercise some agency, and to incorporate changing norms in burial practices into their standard repertoire on their own terms.

It was already clear from the distribution maps shown in Chapter 2 that the furnished burial rite took slightly different forms across Europe; the importance attached to different types of grave goods varied, and the motivations behind the inclusion of these different objects most likely also varied. The analysis in this chapter has provided greater clarity to these regional variations. Alamannia was generally a region of highly furnished burial, with clear declines in the furnished funerary rite prior to the complete abandonment of furnished burial, and the Saxon and Anglian areas of England followed similar trends. Although richly furnished cemeteries did continue to be used right up until the end of furnished burial, they were joined by more poorly furnished sites which were not seen earlier. Burgundy also showed a clear decline in grave good use, despite being one of the most poorly furnished regions of Europe to begin with. Other areas did not see such clear changes, however. Bavarian cemeteries, despite their close proximity to Alamannia, was more poorly furnished, and showed little change over time; all the Bavarian cemeteries were furnished at roughly the same level, regardless of date. Kent and West Frankia also had remarkably static funerary practices; Kent had slightly more richly furnished cemeteries, but both regions used grave goods consistently until the abandonment of those cemeteries, and West Frankia in particular was remarkable for the almost identical level of furnishing between cemeteries. The Lower Rhine was again slightly different; although it did not have a strong decrease in grave good use, there was a great deal of variability in practice between nearby cemeteries, and the longevity of cemeteries there masked some of the change which potentially could have taken place. Merovingian cemeteries have been characterised as having much in common with other sites in the same region, but at the same time possessing their own peculiarities (Young 1986, 73); the same could be said of almost every region studied here.

The trends towards lower grave good deposition in the Anglian and Saxon regions of England were some of the strongest and the clearest in the entire data set. This is partially because of the larger numbers of radiocarbon-dated unfurnished cemeteries available from England, meaning that a more complete picture of the transition can be gained, but the trends in

decreasing grave good use within the period of furnished burial were also some of the strongest. This does not necessarily mean that there was a more direct correlation between grave good use and date in England than on the continent, however. As discussed in Chapter 2, the differences in chronological schemes used in England and the rest of the continent affect the way trends were evident in those areas. The potential for relative inaccuracies between the different schemes used on continental Europe will especially have affected the Spearman's rank test: if, for example, one cemetery were to be placed ten years later than another, when in reality it had gone out of use ten years earlier, all that the test would register would be a difference in order, and not the fact that these two cemeteries were very close in date. This issue is avoided with all of the English sample, though; given that they were all dated using the same methods, we can be confident in their relative dates. The apparent stronger trends in the English sample may just be a product of dating methodologies, therefore, rather than a specific difference in the way grave good use changed.

Although there was a great deal of variation between regions, three overall trends were evident: the tendency for grave good use to have declined prior to that final abandonment, the widespread abandonment of cemeteries towards the end of the seventh and start of the eighth century, and the persistent use of personal accessories despite corresponding declines in equally commonly used artefacts such as dress accessories. The latter is particularly important as these object categories were possessed in different ways, and thus the ways in which they consistently changed across the entirety of the medieval world has the potential to tell us not only about the way the transition to unfurnished burial progressed, but also about way the dead were viewed.

3.7.1. Cemeteries as Places

Although cemeteries came into use and were abandoned throughout the entire early medieval period, there was a clear disjuncture which occurred at the end of the seventh century. Less than 3% of cemeteries in use at the start of the sixth century were still being used at the end of the eighth, and only 6.5% of cemeteries in use during the seventh century were still active at the end of the eighth. It is probable that there was an undetected phase of unfurnished burial at the end of some sites' use, but direct evidence for this was sparse, and it was most likely only brief, so does not fundamentally change this pattern. Burgundy was the only area where there was any real degree of continuity between the seventh and the eighth century.

In order to understand the significance of this disjuncture, we have to consider the importance of cemeteries as locations, and what the decision to abandon one site for a new one may have

signified. Cemeteries were dedicated spaces of ritual, emotion and remembrance (Härke 2001, 13-14). They were places where community identities were created through performative burial ritual, and when cemeteries had been maintained as a burial space over several generations, the decision to abandon them, and the traditions rooted in them, is one which can only have been caused by a marked change in society (Lucy 2000, 152).

The landscape setting of cemeteries has been shown to have great importance, and changes in the locations of cemeteries have been already noted by many studies; studies of both east Yorkshire, and north Wiltshire showed that seventh-century cemeteries were located further away from settlements, and were more marginalised than earlier ones were (Lucy 1998, 98, Semple 2003, 76). From the late seventh century onwards, cemeteries were more commonly found within settlements (Hamerow 2010, 73), breaking down some of the barriers which had existed between the living and the dead in the earlier period, where the two were more strictly delineated. The exact landscape siting of the cemeteries in question is beyond the scope of this thesis, but these studies suggest that the relationship between places of the living and places of the dead changed several times during this period. This has implications for understanding how the living and the dead were related to each other, something which will be discussed further in Chapter 5.

The desire for burial *ad sanctos* in an increasingly Christian world has been viewed as a traditional explanation for the abandonment of ancestral field cemeteries, but the fact that they were more usually replaced by alternative field cemeteries, rather than church cemeteries, dismisses that argument (Zadora-Rio 2003, 7), as well as the potential consecrated nature of some field cemeteries, even in the absence of churches or chapels (Sayer 2013a, 137). The complexities of the transition to churchyard burial have already been extensively discussed (see Chapter 1), but the data presented here corroborates the theory that they were not an immediate replacement for the abandoned field cemeteries. In most regions, there were too few well-dated eighth-century cemeteries to be able to assess trends with any certainty. In Alamannia and Bavaria, for example, the only cemeteries in use at the end of the eighth century were church sites, but given that this was a total of five cemeteries, it is impossible to draw any concrete conclusions. Across the entire sample, 48% of the cemeteries in use at the end of the eighth century had churches associated with them; the true figure is likely to have been lower because of the relative invisibility of later field cemeteries. We cannot therefore argue that a desire for association with a church would have caused the abandonment of older cemeteries.

Viewing cemeteries as places of power could provide an alternative interpretation of the patterns of abandonment seen. If we assume that one of the roles of lavish funerary rites is a display of status, then cemeteries can be seen as a place where power is displayed and enacted, and a place where local conflicts and competitions between families can play out (Halsall 2003, 66, Härke 2001, 24). Cemeteries can also be used to stake claims to land. Semple's study of Wiltshire cemetery locations emphasised the visibility of seventh-century cemeteries on chalk escarpments, and alongside roads, where they would have been highly visible, and where they were interpreted as a means of expressing authority and controlling the landscape (Semple 2003, 76-77, 83). Burials of high-status individuals, often females, were often located on territorial boundaries, as a means of establishing land ownership (Hamerow 2015, 105), and seventh- to eleventh-century Anglo-Saxon execution cemeteries too were located on boundaries, where they would have been highly visible from routeways (Reynolds 2009, 155). This suggests that changes in cemetery location could be interpreted as a change in power dynamics of a region. In the framework of emergent social hierarchies, the establishment of new sites could be seen as a way for the newly dominant elite to establish their own claims to land (Effros 2003, 196). During periods of greater social competition, cemeteries may move closer to settlements so they can be used to legitimise claims to land (Hamerow 2010, 76). It has been argued that as the new, seventh-century cemeteries tended to be smaller, there was less potential for large audiences to view lavish funerary displays. Burials would have taken place less frequently, and so investment in burials within them became a less worthwhile way for families to display status (Halsall 1998, 337, Sayer 2013b, 155). These smaller, more poorly furnished sites were ephemeral places, intended as a commemorative area for a small number of local people, and not a stable place intended for permanent burial provision (Sayer 2013a, 135). However, the introduction of small, poorly furnished seventh-century cemeteries on which Halsall and Sayer's interpretations were based, was only seen in England and Bavaria. This does not explain why a similar disjuncture was seen in almost all other parts of Europe, nor does it explain why smaller cemeteries began to be used in the first place. Interpreting funerary rituals purely through the lens of power relations has already been critiqued for placing too much emphasis on the agency of elites at the expense of others, and for ignoring the emotional aspects of the funerary rite. There would have been an emotional attachment to the people buried in older cemeteries, especially immediate ancestors, suggesting that most people would have been reluctant to abandon those burial sites (Hassenpflug 1999, 63). Although cemeteries undoubtedly did have a role in maintaining power relations, that was not why they were important to the majority of the population.

The abandonment of earlier sites could be a way of deliberately 'forgetting' earlier practices (Hadley 2011, 305). Given that the use of grave goods was so different in the sixth-to-seventh-, and eighth-century cemeteries, their abandonment could therefore be seen less as a subconscious transition, and more as a conscious rejection of earlier practices. The abandonment of cemeteries took place at an advanced stage in the long process of abandoning grave goods, a process that in some areas had been ongoing for over a century. It was therefore only once unfurnished burial had become relatively well established that the sites in which furnished burial had been common were consciously rejected. The fact that Burgundy did not see such a clear change could be because of the much lower level of furnishing which was present there to begin with. This meant that it was not necessary to abandon earlier sites in order to mark a clear distinction between furnished and unfurnished burial, though even there, the richest cemeteries were abandoned by the start of the eighth century. It is also true that of the few examples of cemeteries which survive in continual use in other areas, all but one was largely unfurnished. In some areas, though, in Kent, West Frankia, and to some extent, Bavaria, furnished cemeteries were abandoned without there being any prior gradual abandonment of grave goods. In those areas, therefore, the decision to abandon the use of these furnished cemeteries, and the grave goods within them, seems to have been a very deliberate one, taken as an intentional step to bring these regions in line with practice in the rest of the early medieval world.

The patterns of cemetery abandonment thus fit into the model of diffusion suggested in Chapter 2. Although the use of field cemeteries was not abandoned, the earlier sites in which furnished burial had been common were, with burial moving to new locations. This can be viewed as a conscious rejection of earlier practices towards the later end of an adoption curve, once unfurnished burial had already become a majority rite. The change in the location of cemeteries was less motivated by questions of religion and authority, therefore, and more a result of changing social norms around burial.

3.7.3. Grave Goods as Possessions

Even in regions which saw no noticeable change in overall numbers, there were often some changes in how common different types of objects were at different points in time; no region was truly static over the course of three hundred years. Although there were many variations in the way different grave good types changed in different regions, particularly the less common object types, there were nevertheless a few overall trends which illuminated the broader significance of grave goods in early medieval Europe.

One of the most noticeable trends is the persistence with which personal accessories continued to be used. Fig. 118 provides an indication of this, showing the linear trends for the occurrence of personal accessories in the regions studied. These were one of the most commonly deposited types of objects; in Anglo-Saxon cemeteries, they were found in 40-60% of graves, and in similar numbers in Alamannia, and while they were less commonly found in graves in Burgundy and West Frankia, but they were still frequently and consistently found in graves. Despite overall declines in grave good use, there was no statistically significant decrease in the use of personal accessories in northern Alamannia, eastern Frankia, and the Saxon parts of England, and they in fact became more commonly used in West Frankia. There was also no change in their use in Bavaria or Kent, though these were regions where there was also no overall decline in object types. Though their use did decline in Burgundy and East Anglia, this was one of the smallest changes compared to other types of objects. Southern Alamannia and the Lower Rhine were the only regions where there was anything more than a slight decrease in the use of personal accessories.

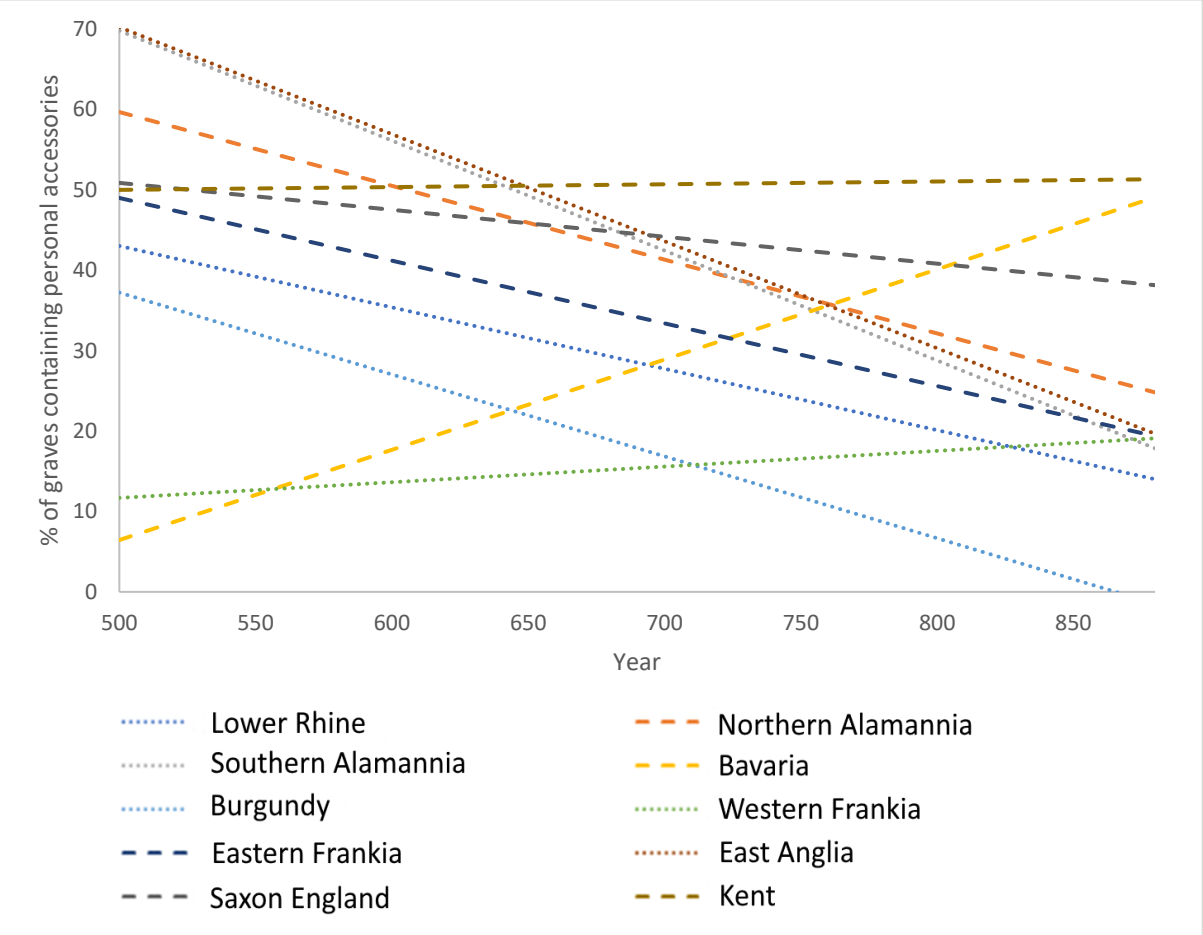

Figure 118: Linear trends in personal accessories. Dotted lines are statistically significant trends, dashed lines are not statistically significant

Personal accessories therefore held a special significance in the early medieval European funerary rite which transcended regional boundaries and contrasted to other types of grave

goods. The category of personal accessories, including objects such as knives, keys, bags, and girdle hangers, comprised everyday objects which would have been carried and used frequently. This makes them a form of inseparable possessions, as defined in Chapter 1; these were items which are so closely entwined with the body of their owners that it was very difficult for this sort of object to be given away, and the bonds of possession remained so that even on death, it was not possible to separate object from owner (Klevnäs 2015b, 175). As discussed in Chapter 1, knives fell into this category of inseparable possession, and girdle hangers, too, were rarely removed from reopened graves, suggesting that they shared an intimate connection with the body. Not all objects which have fallen under the category of personal accessories here will have had such a strong connection, but, because the connection was formed with the body, it existed across large parts of early medieval Europe, regardless of other cultural practices.

This was in contrast to objects such as dress accessories, which were found even more commonly deposited in graves than personal accessories were; they were the most common object in almost all of the cemeteries studied, found in roughly equal numbers to personal accessories in Anglo-Saxon cemeteries, and it was only in the Lower Rhine where they were frequently outnumbered by vessels. They were one of the few objects which consistently became less frequently deposited in graves, regardless of region. Even in areas where there was no overall change in the level of furnishing, in Bavaria and Kent, dress accessories still became less commonly deposited (fig. 119). The only exception was West Frankia. It has been suggested that dress accessories became less commonly placed in graves not because of any changes in their inherent importance as objects, but because of changing patterns in styles of dress which preferred smaller, more discrete accessories over the lavish display of earlier costumes (Martin 2015, 235) While this may partially be true, shrouded burial, in which no clothes at all were included, had become increasingly common by the late medieval period, and so there must have been not only a change in the style of dress, but also a decrease in the popularity of dressed burial.

There was a distinction between the symbolism of dress accessories and that of other grave goods; dress accessories were placed in the grave, not so much as possessions, gifts, or deliberate depositions, but as an integral part of the costume of the deceased (Lucy 2000, 63). Clothing is, of course, not entirely distinct from possessions, and particularly some of the more elaborate accessories will have had a significance that went beyond the purely functional purpose of supporting clothes. Brooches, for example, were objects which could be passed down family lines and become heirlooms. Dress accessories such as brooches had a

close bodily connection with their owner, suggesting perhaps that they fell into the category of inseparable object, and through everyday wear became inseparable from both the person and the body (Martin 2015, 192). However the fact that brooches, along with buckles, were frequently removed from reopened graves suggests that they should be more properly considered as inalienable possessions (Klevnäs 2013, Noterman 2016, 416), objects which had a meaningful relationship with their owner, which was possible to break, but only with difficulty, and such objects usually remained within kin networks. Brooches were part of an elite exchange network and would have gained prestige through association with important individuals. They often saw signs of wear and repair, thus indicating that they circulated throughout society for a while before being deposited in the grave (Martin 2015, 131-132). Therefore because dress accessories like brooches tended to be inalienable possessions, it was easier to remove them from their owner on death, thus in this period of declining grave good use, dress accessories were more easily kept among the living, to remain part of the exchange network there.

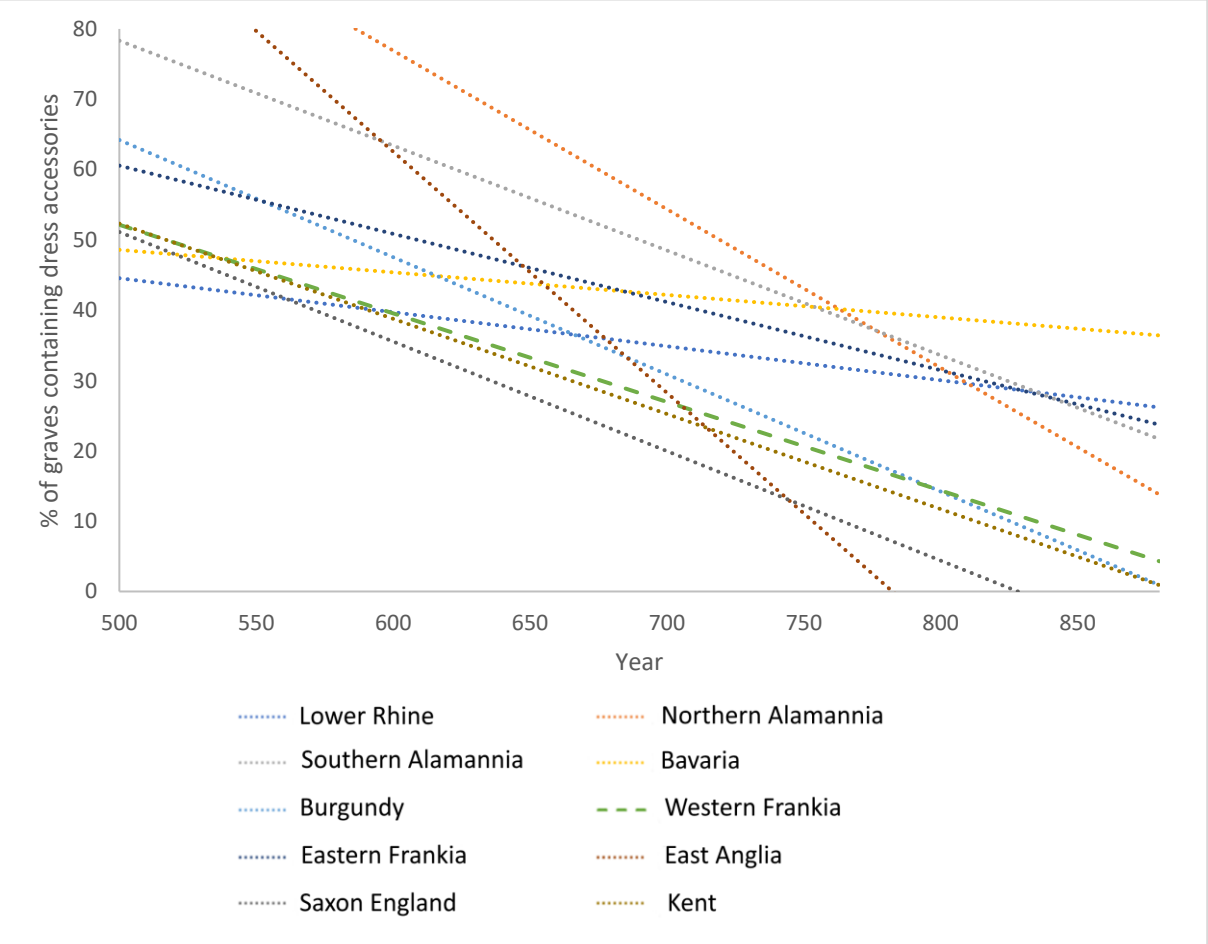

Figure 119: Linear trends in dress accessories. Dotted lines are statistically significant trends, dashed lines are not statistically significant

Weapons also shared similar patterns of change to dress accessories; they only remained consistently used in the areas where there was otherwise very little decrease in objects, in West Frankia, and Kent, and they in fact became more commonly deposited in Bavaria (fig. 120). Weapons, especially swords, were inalienable possessions in the same way as dress accessories were. They could be transferred between owners, but such a transfer was a significant event. Swords carried memories and gained value from their previous owners, and may even have possessed personhood in their own right, allowing them to function separately from their owners (Klevnäs 2015b, 174); they had names, and were often described with 'person-like' characteristics (Brunning 2017, 409). Though not quite as strongly associated with the body as knives were, analysis of wear on the handle suggests that they were carried outside of combat as well, and so may have fulfilled a similar role (Brunning 2017, 412). Nevertheless, the potential for swords to have their own personhood kept them from functioning as inseparable possessions. As inalienable possessions, therefore, in a period of declining grave good use, there was value in keeping weapons in circulation among the living in the same way as dress accessories.

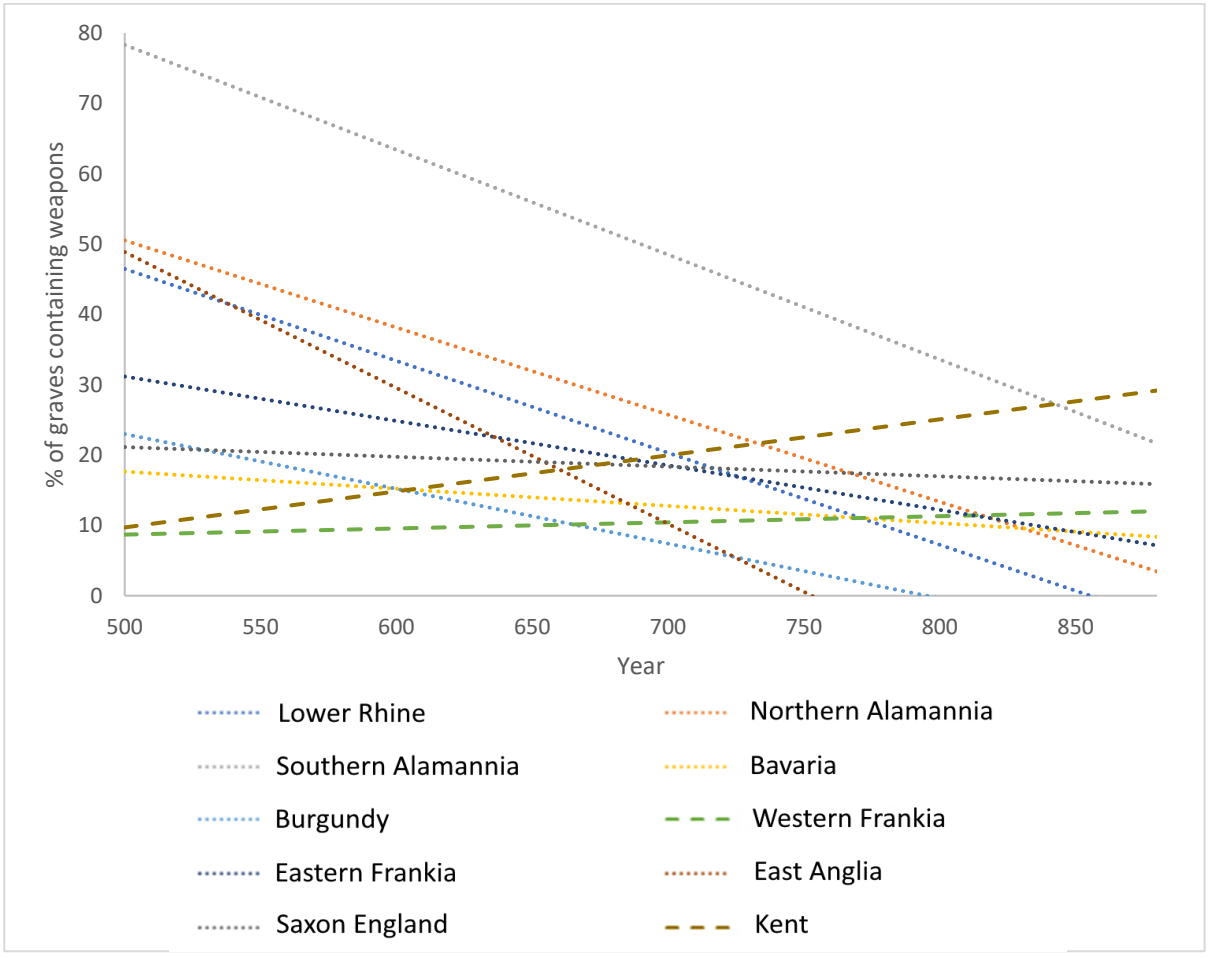

Figure 120: Linear trends in weapons use. Dotted lines are statistically significant trends, dashed lines are not statistically significant

With many of the other categories of object, especially the rarer types, there were no clear universal changes across all of the regions studied. The use of no other object type changed in such a consistent way as dress accessories, weapons, and personal accessories. Similarly, there was no region in which the use of every object type universally changed in the same way; Northern Alamannia perhaps came closest to this with significant decreases in every object type apart from personal accessories and animal remains. What this tells us is that the significance of many different types of objects was largely determined on a regional, and perhaps even a local level. In the areas of particularly high vessel use, for example, vessels retain their importance; in West Frankia they in fact become more frequently deposited in graves over the course of the sixth and seventh centuries, and in the Lower Rhine, the decrease in vessels was one of the smallest changes seen. In areas where vessels were not so important, though, more marked changes were noted in their use. Thus only certain categories of artefact can be said to hold some level of universal meaning across western Europe.

3.7.3. Conclusions

The analysis of regional trends has highlighted important changes in cemetery use and grave good use. Nevertheless, there are still questions about the exact chronology of the changes seen, which cannot be illuminated using this method of analysis. The next chapter will therefore deal with the analysis of more closely dated graves from within individual cemeteries, which, when matched with regional trends, will give a greater clarity to the chronology of the changes observed here.

The consistent use of personal accessories, in contrast to the persistent decreases in dress accessories and weapons, and the different way in which these objects were owned, suggests that a part of the change in grave good use can be linked to differing possessive agency of the deceased; that is, a change in the ability of the corpse to own different types of objects. This has important implications for the way in which the corpse was viewed, something which will be discussed further in chapter 5.

4. Individual Cemetery Case Studies

The above discussion has highlighted that although there were broad trends within regions, there was also variability in the way that even geographically close cemeteries used grave goods within their funerary rites. Looking at individual cemeteries allows us to see in more detail the way in which local trends reflect broader, regional ones. The large-scale approach taken thus far can lead to funerary behaviour being viewed very much as an emotionless process; burials however, are the result of communities and individual families making emotionally charged decisions about how to bury their dead, and working on a smaller scale allows us to see those decisions.

Additionally, looking at individual sites provides a means of understanding change at a finer chronological resolution. The larger scales only allowed me to investigate change which occurred broadly as a result of cemeteries going in and out of use, and not change over time within cemeteries. The observed decreases in grave good deposition could have been the result of the appearance of new, poorly furnished cemeteries, in which personal accessories remained common but other objects were rarely deposited, while burials in the existing cemeteries remained more richly furnished. Analysis of individual cemeteries therefore allows us to investigate whether or not the trend for decreasing grave goods was confined solely to these new cemeteries, or whether it also occurred in existing cemeteries.

The following cemeteries were chosen for this analysis for their longevity and the level of chronological research undertaken on them. All the cemeteries were used for a long period of time, in most cases until the end of furnished burial in their respective region, so that there was the greatest chance of being able to see change over time. Dates had to be available for large numbers of individual graves, either those that had been integrated into regional chronologies, or from an in-depth chronological analysis in their own right. I have attempted to select cemeteries which are broadly representative of the regions in which they were situated, though many of the sites chosen had above average grave good provision, because cemeteries with more grave goods have more potential for typological dating. Fig. 121 shows the location of cemeteries selected for individual analysis. I tried to select one cemetery from each of the regions studied in Chapter 3. However, few cemeteries from Northumbria were suitable for analysis, and an attempt to analyse Castledyke South (Drinkall and Foreman 1998) proved inconclusive due to a low number of datable burials, only 37. No cemetery has been included for southern Alamannia, either. Although there were several cemeteries which

had good chronological analysis, they either had dates for too few graves, or very few phases, which meant that the potential for analysis was limited.

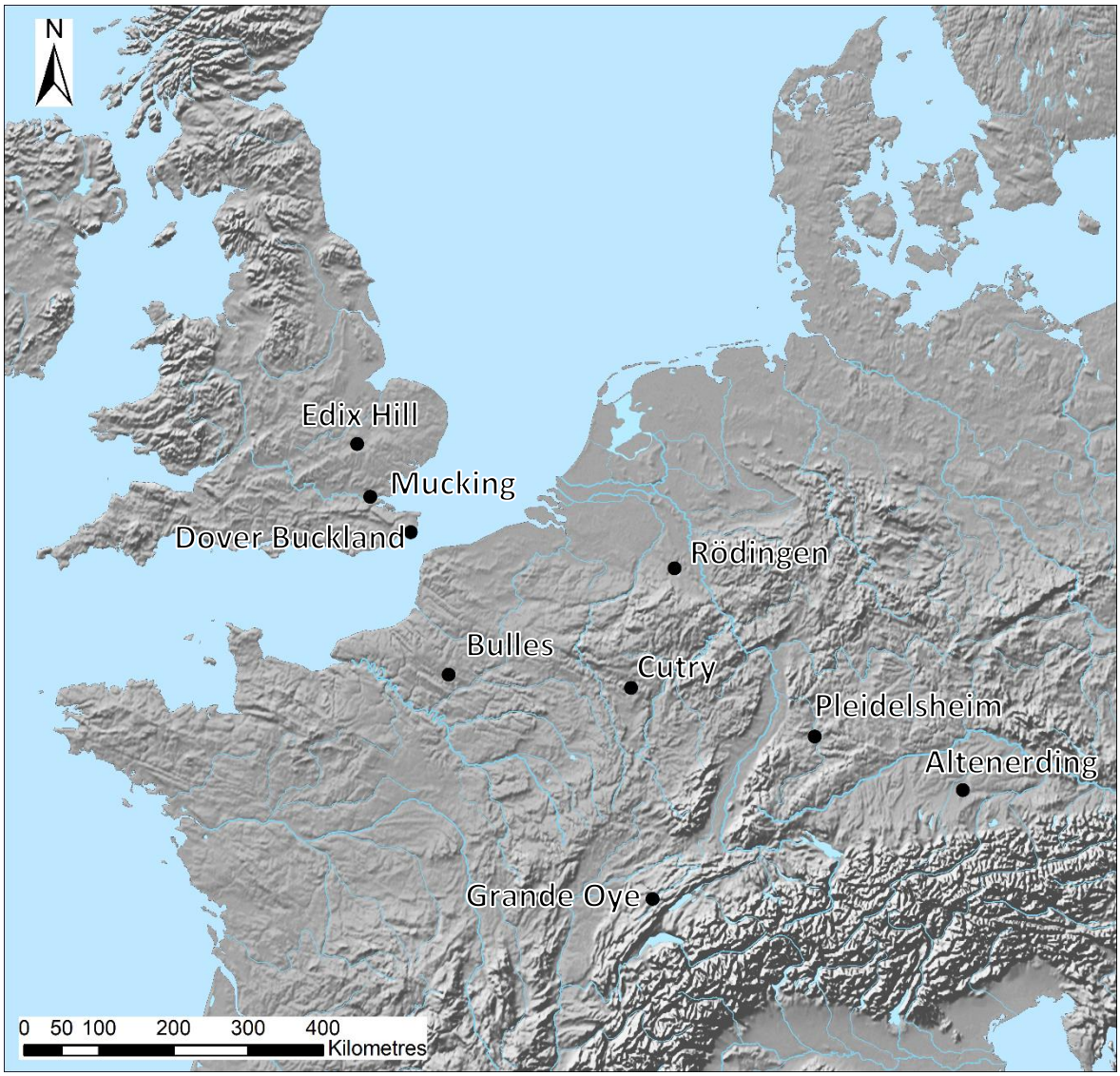

Figure 121: Case study cemeteries

It was impossible in most instances to include unfurnished burials in the analyses of each cemetery; very few unfurnished graves had independent dating evidence, nor was there enough intercutting to be able to date unfurnished burials stratigraphically in anything more than a few instances. This means that the trends revealed by the following analysis do not reflect the entire spectrum of burial practices, but instead show the changes within furnished burials only. With the methods adopted in the previous chapters, all different types of graves were used, but with an imprecise date. In this chapter, the dating was more precise, but only looked at a subset of graves. Comparing the results obtained here with those of the overall regions will provide as full a picture as possible of how change occurred over time.

For each cemetery selected, I looked at changing numbers of grave goods, including different categories of grave goods, tested using a Spearman's Rho, as at the larger scales. The date of

a grave for the purposes of statistical analysis was taken to be the mid-point of its date range. This presented occasional problems when running the statistical analysis. The non-parametric tests used only take into account ranked order, not magnitude of distance in date. Additionally, some phases had very few graves dated to them. Because of this, graves with estimated mid-points close to each other have been merged into one category, and the mid-points adjusted accordingly. The order of the phases has been preserved, and will give an indication of changing practices, even if this lessens the chronological resolution.

I also carried out an analysis of where grave goods were placed in relation to the body of the deceased. The role that objects may have played in the funerary rite will have been dependent on where they were placed, in relation to each other, and in relation to the body. Objects in early medieval burials were not placed accidentally, but meaningfully. At the Anglo-Saxon cemetery of Snape, some graves were enlarged to fit certain objects in specific positions, clearly demonstrating that putting objects in the correct location was of great importance (Williams 2006, 39, 127). In his interpretation of a Roman Iron Age burial from Skovgårde in Denmark, Ekengren (2013) argues that the objects which were arranged immediately around the corpse, in close association with it, represented a stage where the new social identity of the deceased was formulated through the mortuary ritual. In contrast, the objects which were deposited on a ledge outside the coffin could be associated with rituals after the closing of the coffin and after the establishment of the deceased's new identity, and were possibly the disposal of objects used during the ritual itself (Ekengren 2013, 186-88). In this particular example, there was no definitive evidence that the coffin was closed to hide the funerary tableau before the items were deposited outside of the coffin, but I still agree that objects deposited separately from the body have a different significance than those more closely associated with the cadaver. I have therefore used three different categories of location: on the body, next to the body, and elsewhere in the grave. An object's location was deduced through reference to grave plans, where available, and descriptions in the grave catalogue. The correlation between object location and date was tested using a two-way ANOVA. The results of between-subject effects were reported for overall locations of objects in the grave, with no regard to type of object, and the results of post-hoc pairwise comparisons were reported to look at how individual object types changed over time. Full results of the two-way ANOVA are presented in Appendix 2.3.2.

I also analysed the effect of the gender of the deceased on changing patterns of grave good use. Age has not been considered here, because dividing the sample into age categories as well as gender categories would reduce already small samples to an unfeasible size, and in

many cases the anthropological information provided was not good enough to be able to do this. However, some of the effects of age on grave good provision have been mitigated against by the methodology. For example, beads varied with age, with the number and variety increasing with age until the forties, after which they became less commonly used again (Stoodley 2000, 463). I have counted all beads simply as one object, unless there was clear evidence that they came from separate necklaces, and so all feminine assemblages were treated as equal in this regard, regardless of age.

For the gendered analysis, I separated the graves into masculine and feminine categories. This was done primarily on the basis of the graves goods, following the categorisations outlined in chapter 1. In the vast majority of cases, the gender suggested by grave goods correlated with biological sex, but where there were contradictions, graves were classified according to their objects rather than their biological sex. Biological sex and gender were to some extent conflated; graves without gendered objects, but where remains had been biologically sexed, were included in the feminine category if female, and masculine if male. The associations of gendered grave goods suggests reasonably strong links between sex and gender in these periods, and so it was felt that even poorly furnished graves could be classed as masculine or feminine. The small number of graves which included both masculine and feminine objects were included in both categories. Graves with neither anthropological sex nor gendered grave goods were excluded at this stage. This approach recognises that there is overlap between biologically and socially defined categories of gender, but that the two do not map directly onto one another.

The rest of this chapter will give first an overview of the cemeteries analysed, including an overview of their grave good use, chronologies, and demography, before presenting an aggregated analysis of their trends; how changing numbers and types of objects matched with broader regional trend, differences in changing grave good use between masculine and feminine assemblages, and changing placement of objects in relation to the body.

4.1. The Cemeteries

4.1.1. Pleidelsheim – Northern Alamannia

Pleidelsheim is located in modern-day Baden-Württemberg, near the town of Stuttgart. It was in use from the mid fifth century to the late seventh century, making it one of the few cemeteries in the region which spanned the period of Frankish conquest (Koch 2001, 24). Parts of the cemetery were excavated sporadically in advance of construction work from 1951-1969, when a more comprehensive excavation was carried out (Christlein 1975, 102). This uncovered only part of the cemetery, and further excavations took place in the early 1990s, giving a total of 264 graves.

The graves in Pleidelsheim were considerably richer than those of the region as a whole, in every category as well as in overall numbers. The total average number of grave goods was 5.06, compared to 3.49 objects per grave in northern Alamannia more broadly. Dress accessories were the most common type of object, but a wide range of objects was used, and only amulets and coins could really be considered rare (fig. 122).

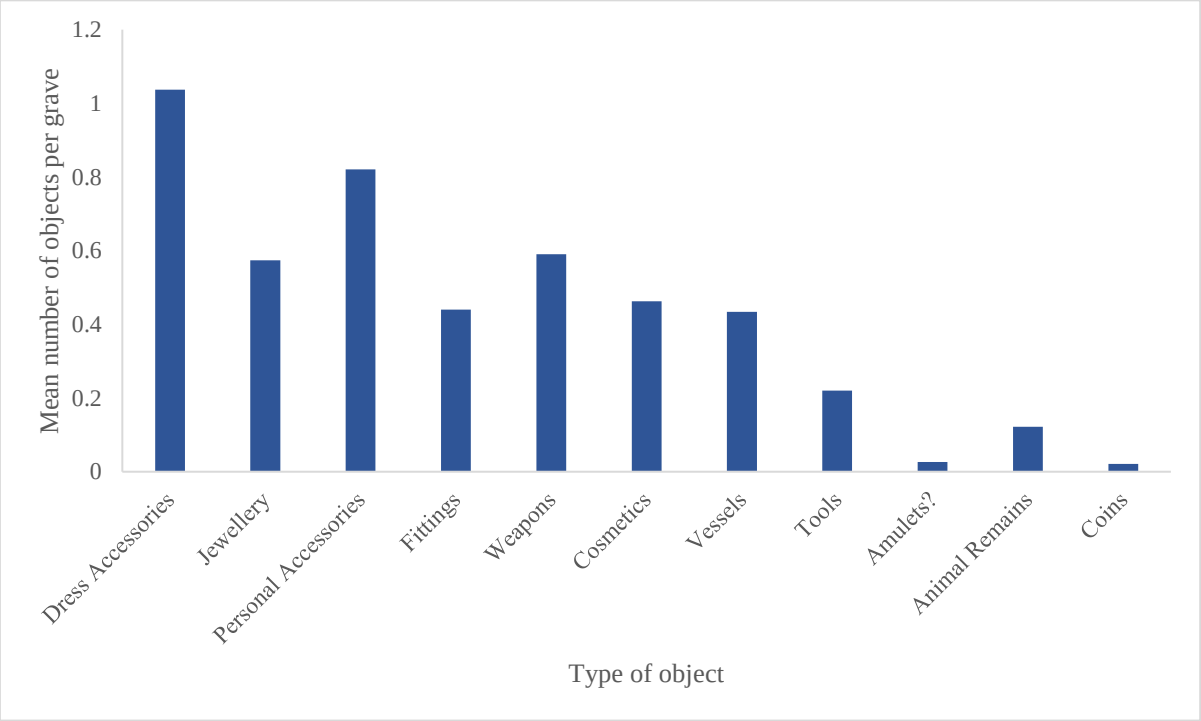

Figure 122: The average number of different types of artefacts in the dated graves of Pleidelsheim

4.1.1.1. Cemetery Phases

Pleidelsheim was the subject of its own in-depth typo-chronological analysis, which has since become the standard chronology for the region, and was relied upon as a key comparison for the revised Anglo-Saxon chronology (Hines & Bayliss 2013, 482). This dated 165 graves to one of ten phases of cemetery use, 62.5% of the graves excavated. These phases were created

through analysis not just of Pleidelsheim, but also many other Alamannic cemeteries, thus widening its applicability. However, there was very little explanation provided of the methodology used to create the different, relatively short, phases (see Chapter 1).

The graves at Pleidelsheim were reasonably equally distributed throughout the cemetery's use; it was only in the very last phase, from 650-670 that there was a markedly lower number of graves (fig. 123). There was a low, but noticeable level of grave disturbance affecting graves from almost every period, a mix of deliberate re-opening, identified in the original report as *Grabraub*, and accidental disturbance. In this instance, disturbed graves have been excluded from the analysis, as this did alter it; the correlations between grave good numbers and time were more marked when disturbed graves were included than when they were excluded. Throughout the cemetery's use, masculine and feminine graves were found in roughly equal numbers; in the seventh century, however, feminine graves became more numerous than masculine ones, and no masculine graves were found in the final phase.

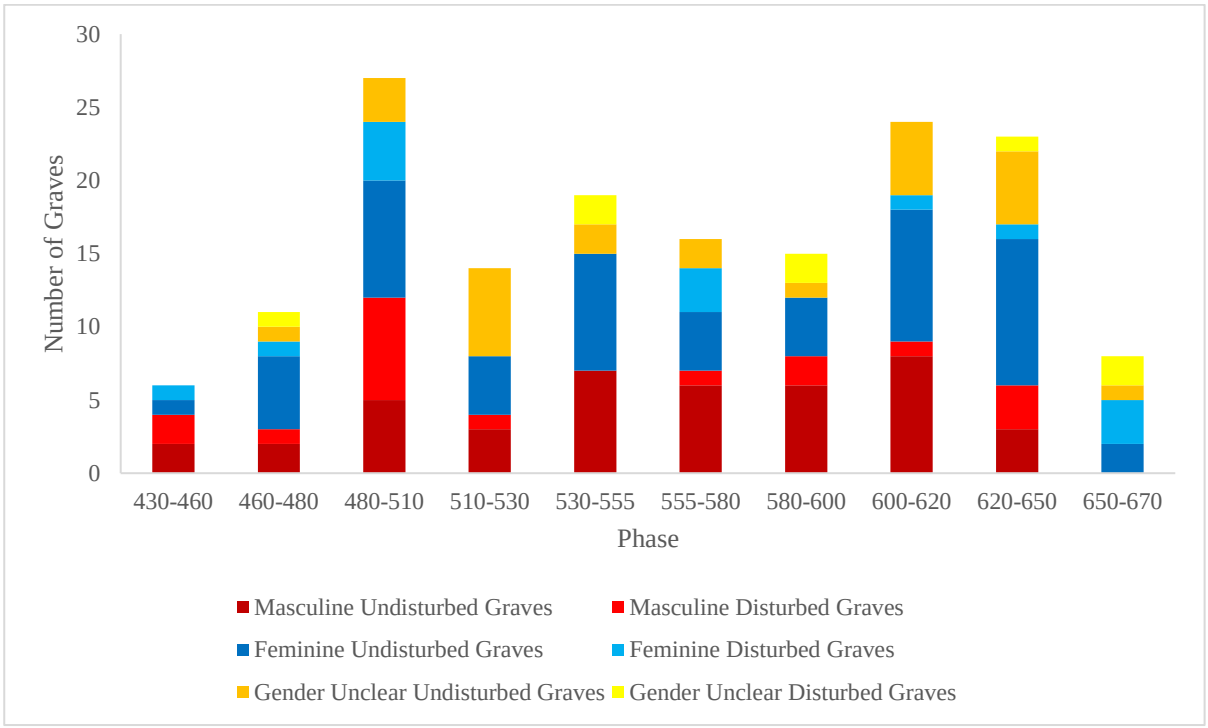

Figure 123: Number of graves per phase at Pleidelsheim

Phase	Dates	Mid-point	Number of Graves	Number of Undisturbed Graves
1	430-460	445	6	3
2	460-480	470	11	8
3	480-510	495	27	16
4	510-530	520	14	13
5	530-555	542	19	17
6	555-580	567	17	12
7	580-600	590	15	11
8	600-620	610	24	22
9	620-650	635	24	19
10	650-670	660	8	2

Table 2: Phases at Pleidelsheim, and their mid-points as plotted on graphs

4.1.2. Altenerding - Bavaria

Altenerding is located near the city of Munich in Bavaria. It was discovered in 1965, and while small parts of it were excavated then, much larger parts were destroyed by construction. More complete excavations were carried out from 1966 to 1969, and in 1973 (Sage 1984, 10-11). It was by far the largest of the cemeteries chosen for individual analysis, and was in fact the largest cemetery in the entire study, containing 1342 graves, which were used between the mid fifth and late seventh century. Given the large number of graves destroyed, it is estimated that the cemetery may once have housed as many as 2300 burials (Sage 1984, 14).

Grave good use at Altenerding was reasonably typical of practice in Bavaria; overall provision was slightly lower, 2.19 objects compared to 2.35, but individual categories were more variable. Most were comparable, but dress accessories were more commonly deposited in Altenerding than Bavaria as a whole, while personal accessories were less common. Dress accessories were the most common type of object, almost twice as common as personal accessories. No amulets were found in the graves at Altenerding, and only small numbers of graves contained coins and animal remains (fig. 124).

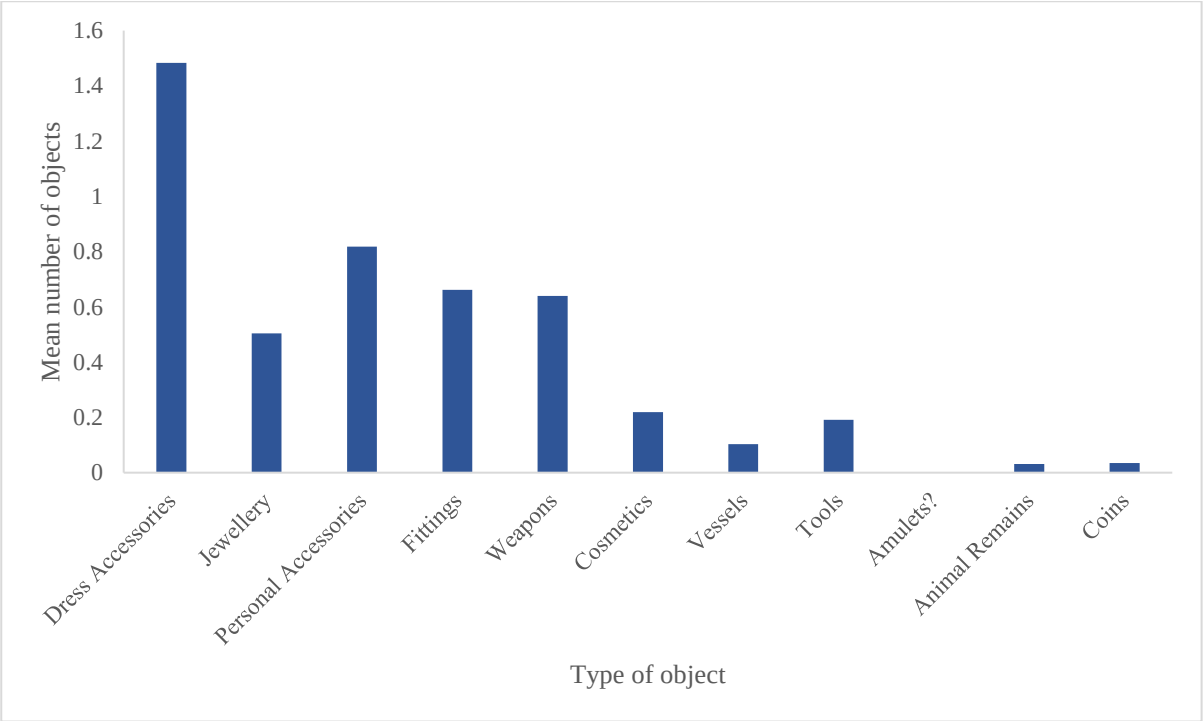

Figure 124: The average number of different types of object in the dated graves at Altenerding

4.1.2.1. Cemetery Phases

The graves at Altenerding were dated as part of a seriation of the cemeteries around Munich carried out by Hakenbeck (2011). 319 graves out of 1342 were included in her seriation. This is an unusually large number of dated graves for a site, thus giving its analysis greater statistical robusticity than was possible for many of the other cemeteries analysed here, though it was still a small sample of the entire cemetery, only 24% of graves. Masculine and feminine graves were dated entirely separately, with feminine graves divided into four phases, and masculine graves into five. Both series lasted from the mid fifth century until late in the seventh century, although the exact boundary of these last phases were unclear, and could only be described as 650+ (Hakenbeck 2011, 50). There were more graves dated to the phases from the mid sixth century onwards, but large numbers of early graves were still available.

Unfortunately, it was very difficult to identify the level of disturbance of the graves from the original report. Although in many instances the plan showed graves intercutting one another, the descriptions of the graves did not indicate what that actually meant in terms of disturbance of the earlier grave. Plans were provided for only 67 graves, and of those, perhaps nine show definite signs of disturbance, which was not always reflected in the descriptions. In many instances, the disturbance which was observed was attributed to animals, in which case it is likely that only small objects might have been lost. Because of these issues, even the graves which could be identified as disturbed have been included in the following analysis. The disturbed graves were evenly distributed throughout the cemetery's use (fig. 125).

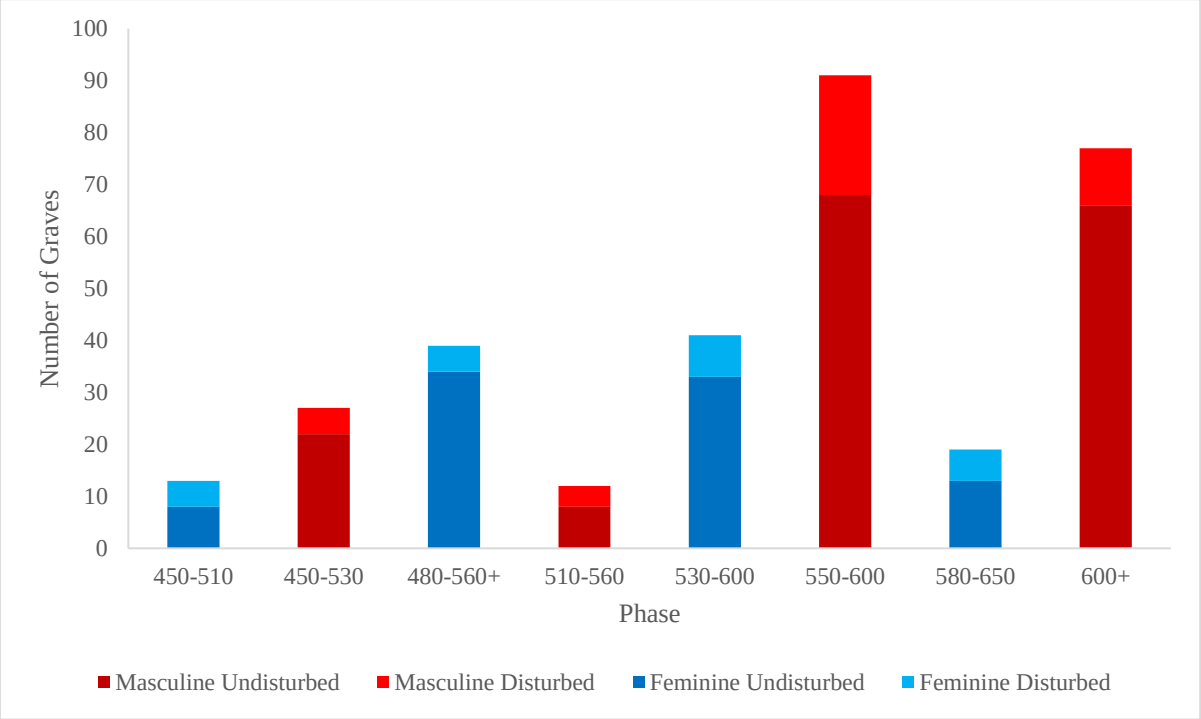

Figure 125: The number of graves per phase at Altenerding

Phase	Dates	Mid-point	Number of Graves
F1	450-510	480	13
M1	450-530	490	27
F2	480-560+	520	39
M2	510-560	535	12
F3	530-600	565	41
M3	550-600	575	91
F4	580-650	605	19
M4/M4-5	600+	625	45
M5	600+	650	32

Table 3: Phases at Altenerding, and their mid-points as plotted on graphs

4.1.3. Grande Oye - Burgundy

Grande Oye is located near the modern French-Swiss border, and was excavated between 1987 and 1990. The cemetery was in use between the mid sixth and early eighth century, and contained 576 graves. The initial number was most likely higher, as a number of graves were destroyed by construction work before archaeological interventions could take place (Urlacher *et al.* 1998, 22).

The graves of Grande Oye were slightly more poorly furnished than those of Burgundy as a whole; a total average of 0.74 objects per grave, as opposed to 1.19 for the whole region, and this holds true for most categories of object as well. Many Burgundian cemeteries tended to be quite long-lived, with many spanning the seventh to ninth centuries. In comparison, Grande Oye was relatively short-lived. Unfortunately the longer-lived sites had not been subject to adequate chronological study for this analysis. Dress accessories were by far the

most common type of object in Grande Oye. The other types of object used were more restricted; vessels were completely absent from the dated graves, and cosmetics tools, amulet, animal remains, and coins were only rarely found (fig. 126).

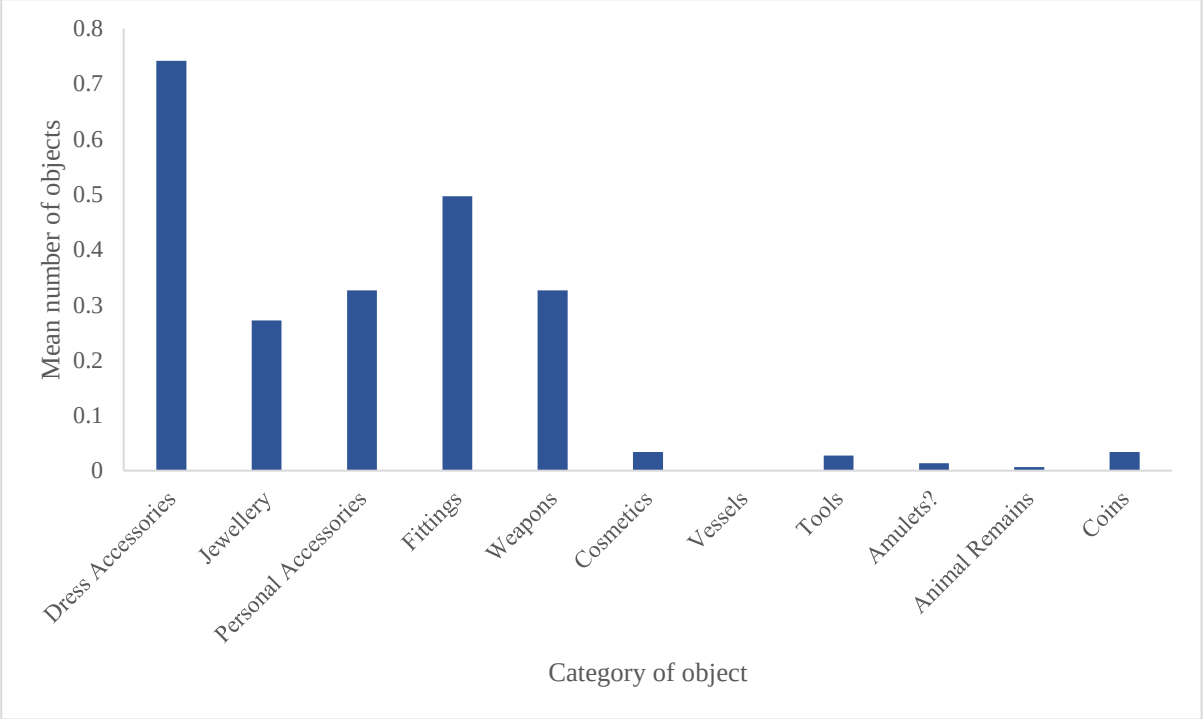

Figure 126: The average number of different types of object in the dated graves of Grande Oye

4.2.1.1. Cemetery Phases

Grande Oye was dated using a seriation of grave goods, which produced six phases. These phases were then assigned absolute dates on the basis of local typologies. However, there were also indications that it was used beyond the early eighth century, as one grave contained a coin dated to the ninth century. Another seven unfurnished graves were speculated to be of the same, later date as the coin-dated grave, as they shared a slightly different orientation to the rest of the cemetery (Urlacher *et al.* 1998, 26). This indicates that there was a phase of mostly unfurnished burial in the eighth and early ninth centuries, which would not be unusual given how long lived Burgundian cemeteries tended to be.

The majority of dated graves at Grande Oye belonged to the seventh century, with very few from the sixth (fig. 127). There was relatively little disturbance of graves and they were mostly disturbed accidentally by construction work, or by the digging of later graves. Only one grave (grave 278) may have been reopened deliberately. The disturbed graves were included in the analysis, as excluding them made no difference to the trends observed or their statistical significance. Very few feminine graves were dated to the earlier part of the cemetery's use, but later, there was a more even balance of masculine and feminine graves.

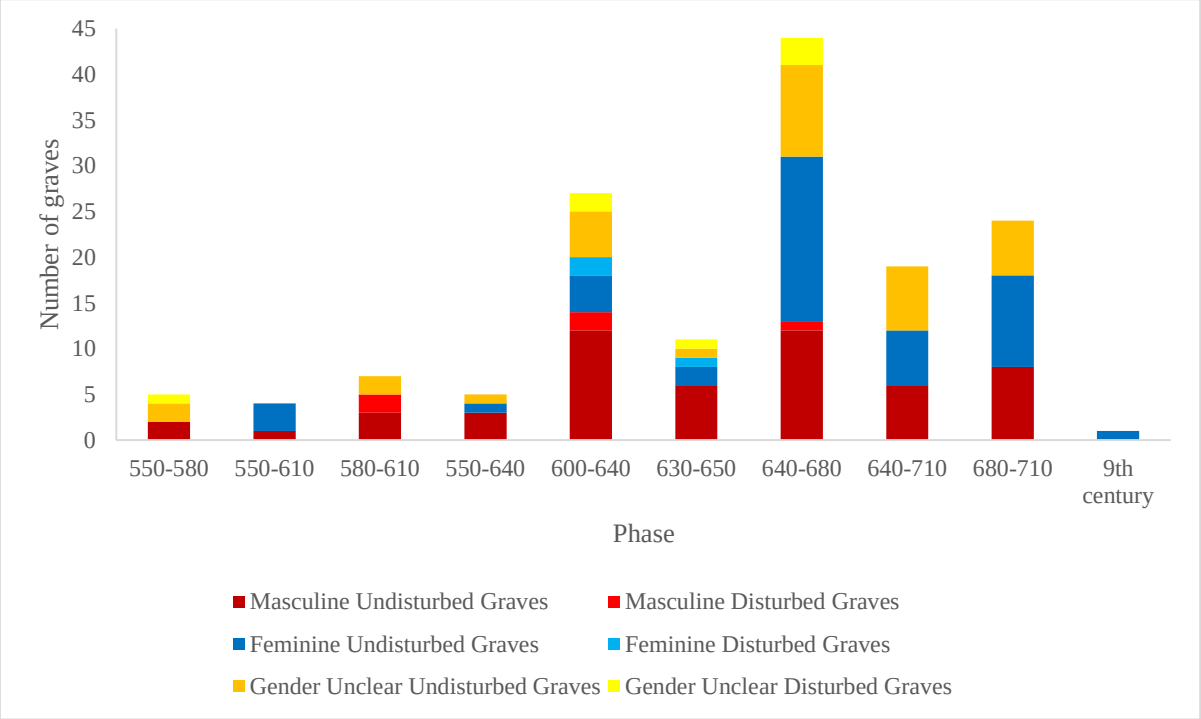

Figure 127 Number of graves belonging to each phase at Grande Oye

Phase	Dates	Mid-point	Number of Graves	Number of Undisturbed Graves
HA1	550-580	565	5	4
HA	550-610	580	4	4
HA2	580-610	595	12	10
<HB	550-640	595		
HB	600-640	620	27	21
HC	630-650	640	11	9
HD1	640-680	660	44	40
HD1/2	640-710	675	19	18
HD2	680-710	695	24	24
		800	1	1

Table 4: Phases at Grande Oye, and their mid-points as plotted on graphs

4.1.4. Bulles – West Frankia

Bulles is located in the Oise department of France, between Paris and Amiens. The site was discovered in 1963, and was excavated continuously over several seasons until 1984 (Legoux 2001, 17). The cemetery contained 870 graves, used between the mid fifth and the early eighth century. At its peak, in the second half of the sixth century, the cemetery was used by around 200 individuals, before decreasing to around 50 by the end of the seventh century (fig. 128, Legoux 2001, 60).

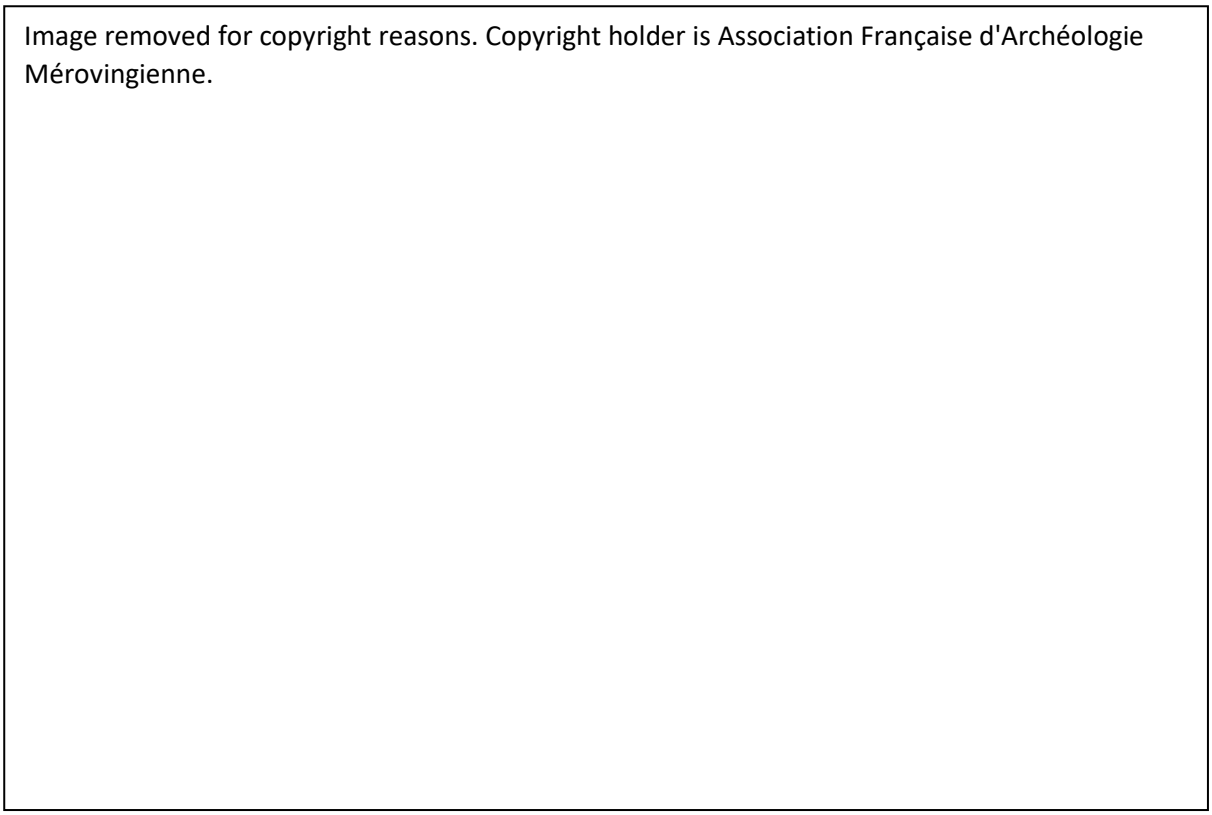

Figure 128: The size of the population burying at Bulles (Legoux 2001, 62)

Grave good use in Bulles was considerably higher than the rest of West Frankia, perhaps making it the most anomalous cemetery chosen for individual analysis. The average number of objects was almost double that of the rest of the region, at 2.44 objects per grave, compared to 1.24 objects regionally, and this holds true for almost every object category. The most common type of object was vessels, closely followed by dress accessories, then personal accessories. There were no amulets or animal remains used in graves here, and very few cosmetics, tools or coins (fig. 129).

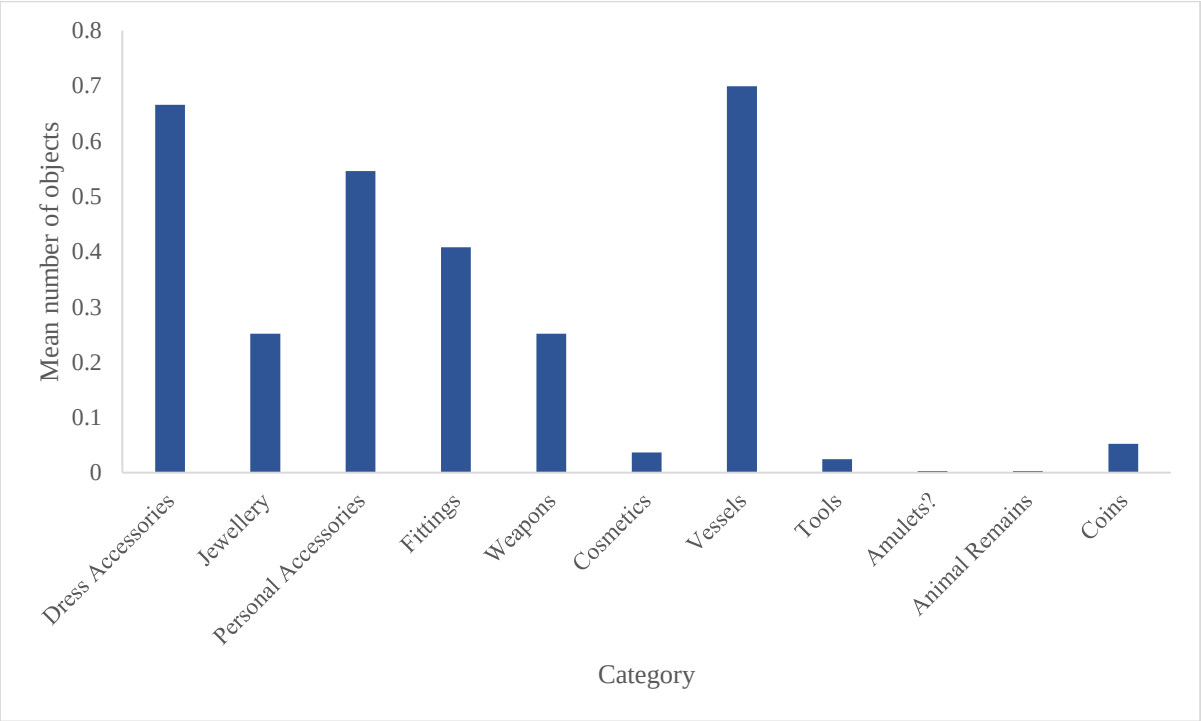

Figure 129: The average number of different types of object in the dated graves of Bulles

4.2.2.1. Cemetery Phases

The graves of Bulles were integrated into the Chronologie Normaliseé, but were also the subject of their own seriation. The seriation broadly followed the phases of the Chronologie Normaliseé, but added two extra at the end, phase G and H. Phase G was characterised by the absence of grave goods, and 'late' funerary rites, while phase H was a group of graves on the north-west edge of the cemetery, which were oriented north-south (Legoux 2001, 180). There was no independent dating evidence used for phase G. A topographical analysis suggested that the cemetery developed outwards from a central point, and so it is likely that the graves of phase H, on the periphery of the site were some of the latest in the cemetery. However, those of phase G were interspersed between graves of earlier phases, and were assigned to the last phase purely because they had no grave goods. Therefore, while phase H graves have been retained in the analysis, phase G graves have not. There were very few graves in this final phase, fifteen, suggesting that this phase of unfurnished burial was not a long one.

The majority of graves belonged to the sixth century, with fewer from the fifth and seventh centuries (fig. 130). However, as the available sample of dated graves was much larger than it was for other cemeteries, this was not too much of a problem. The phases which had most graves dated to them also had the highest proportion of disturbed graves. The disturbed graves, largely the result of deliberate reopening, have been excluded from the statistical analysis, as almost all of the observed trends were stronger if the disturbed graves are removed.

The numbers of masculine and feminine grave assemblages per period were rarely equal; in later phases, feminine burials tended to outnumber masculine burials, and vice versa earlier. In the seventh century, though, graves with no clearly gendered goods outnumber the gendered burials. There was very little anthropological information available, so in most instances, gender could only be suggested on the basis of grave goods.

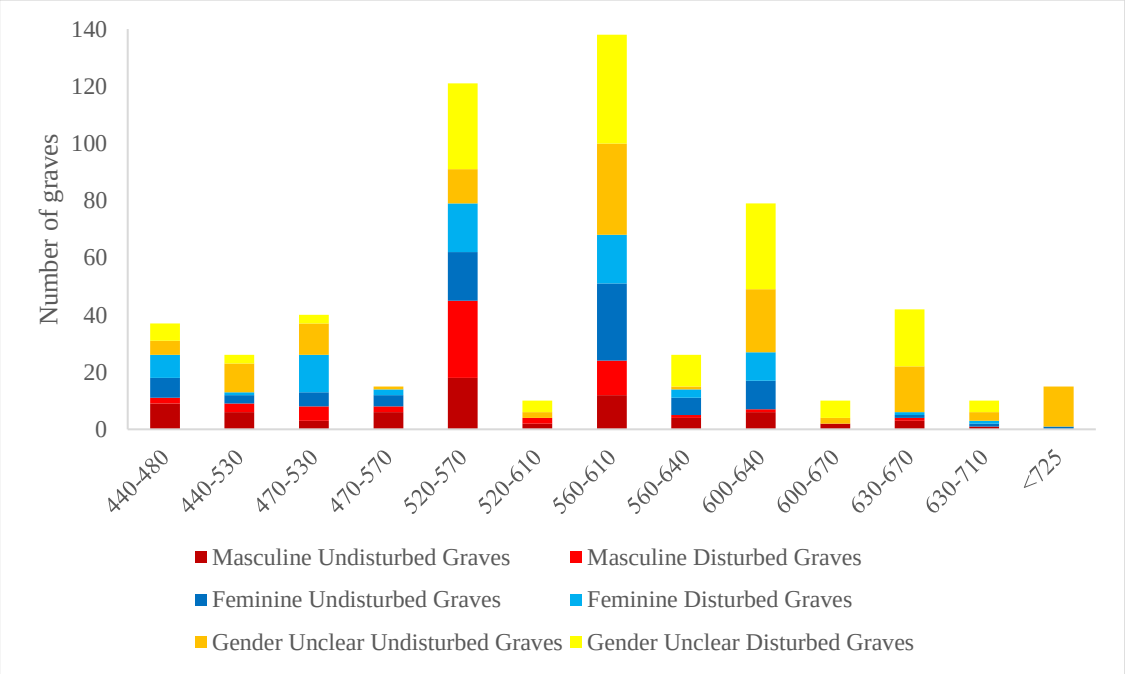

Figure 130: Number of graves belonging to each phase at Bulles

Phase	Date Range	Mid-point	Number of Graves	Number of Undisturbed graves
PM	440-480	460	37	21
PM-MA1	440-530	480	26	19
MA1	470-530	500	40	19
MA1-MA2	470-570	520	15	11
MA2	520-570	545	121	47
MA2-MA3	520-610	565	10	4
MA3	560-610	585	138	71
MA3-MR1	560-640	600	26	11
MR1	600-640	620	79	38
MR1-MR2	600-670	635	10	4
MR2	630-670	650	42	20
MR2-MR3	630-710	670	14	9
MR3	660-710	685		
MR3-G	660-725	685		
H	<725	715	15	15

Table 5: Phases at Bulles and their mid-points as plotted on graphs

4.1.5. Rödingen – Lower Rhine

Rödingen is located near Cologne, near the River Rhine in Germany. While isolated finds from the nineteenth century suggested the presence of a cemetery, the exact nature and

location of these finds are unknown. The site was discovered properly following the construction of a gravel quarry, and a series of fourteen excavations were carried out, the first in 1913, and the last in 1981, with the bulk of the graves being excavated over ten years between 1949 and 1959 (Janssen 1993, 20-21). 706 graves were excavated in total, but it is estimated that the cemetery may once have contained over 1000 burials, some of which still remain to be excavated (Janssen 1993, 15, 23). Although the associated settlement is unknown, it is possible that it developed into the modern town of Bettenhoven, though the slightly more distant community in the settlement of Rödingen may also have buried some of their dead there. The cemetery was directly adjacent to the Roman road which linked Cologne and Aachen, and which continued to be used well into the early medieval period (Janssen 1993, 16-18).

It was noted in the original excavation report that Rödingen was a relatively poorly furnished cemetery, and that while some graves had above average furnishing, none could be described as truly rich (Janssen 1993, 115). In comparison to the rest of the Lower Rhine region, the graves contained an average of 1.8 objects per grave, compared to 2.4 objects regionally. Weapons, jewellery, and vessels were found slightly more commonly in Rödingen than in the whole region, but every other object category was less common, sometimes markedly less. Vessels were the most common type of object. Dress accessories were unusually rare at the site, and weapons were the next most common type of object. There were very few cosmetics, tools, animal remains, or coins, and no amulets (fig. 131).

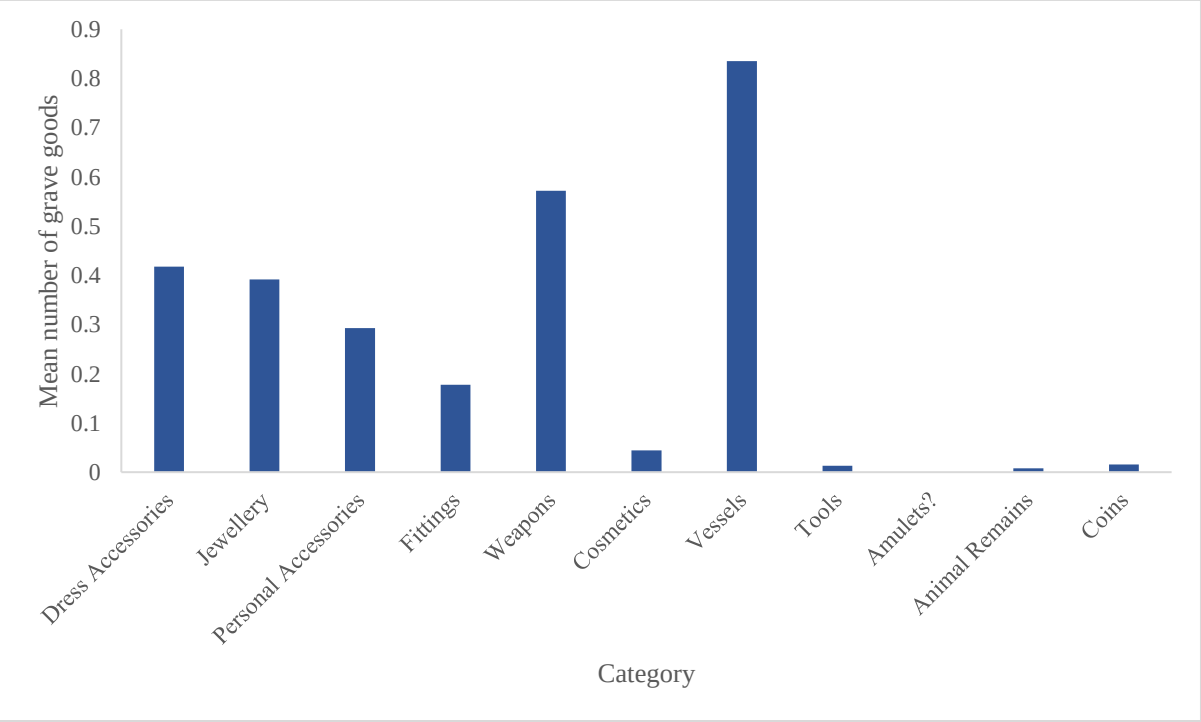

Figure 131: The average number of different types of object in the dated graves of Rödingen

4.3.1.1. Cemetery Phases

Rödingen was one of the key cemeteries included in Müssemeier's *et al.* (2003) study of the Lower Rhine cemeteries, and 89 graves were included in their seriation analysis. However, this cemetery was also the subject of a more detailed chronological analysis by Herget (2006), who identified nine phases in the cemetery's development, and assigned 383 graves, 54% of the total, to one or more of these phases, on the basis of a seriation, stratigraphy, and coin-dates, and using established chronologies such as Müssemeier's as a reference. Comparing the graves dated by the two different schemes in most instances revealed a good correlation between them. In only eight instances were the absolute dates suggested by Herget markedly different to those suggested by Müssemeier's seriation. Herget's phases were relatively short, but in most instances graves were assigned to a span of phases, not just one 20 year period. Graves dated to the very broadest periods were not included in the following analysis[1].

As with many sites, the majority of graves were dated to the sixth to mid seventh century, and relatively few to the late seventh century (fig. 132). Masculine and feminine graves were distributed relatively evenly throughout the entirety of the cemetery's use, though there was a large number of graves of unclear gender. There were no surviving skeletal remains at Rödingen, and so only grave goods could provide an indication of the gender of the deceased.

The cemetery of Rödingen underwent a series of disturbances, both grave reopening in the Merovingian period, and destruction by agriculture, quarrying, and bomb craters from the Second World War (Janssen 1993, 22). These disturbances disproportionately affected the earlier phases, however, and many of the seventh-century graves survived relatively intact.

[1] Phases 3-6, 3-7, 4-8, 5-9

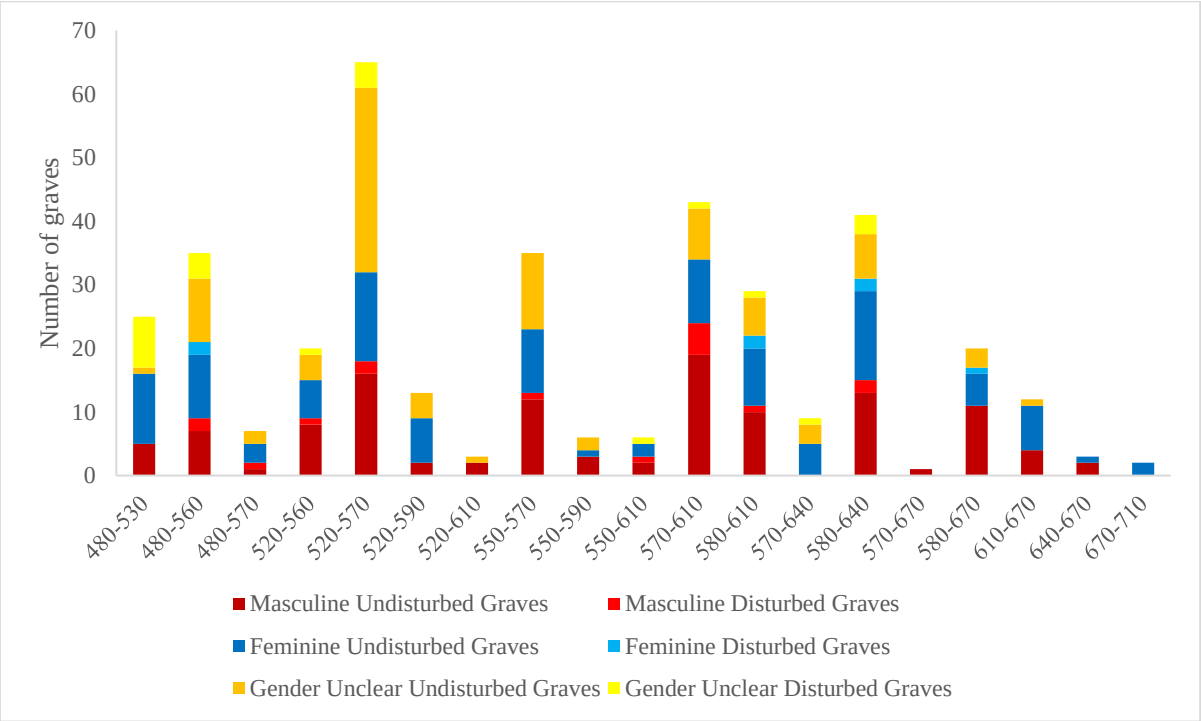

Figure 132: The numbers of graves belonging to each phase at Rödingen

Phase	**Date-range**	**Mid-point**	**Number of Graves**	**Number of Undisturbed Graves**
2-3	480-490	505	25	24
3	480/90-530	505		
2-4	480-560	522	42	33
3-4	480-560	522		
3-5	480-570	522		
4	520-560	542	85	77
4-5	520-570	542		
4-6	520-590	557	48	47
5	550-570	557		
4-7	520-610	567	9	6
5-6	550-590	567		
5-7	550-610	580	6	3
6	570-590	580		
6-7	570-610	592	72	62
7	580-610	592		
6-8	570-640	607	50	42
7-8	580-640	607		
6-9	570-670	625	21	20
7-9	580-670	625		
8	610-640	625		
8-9	610-670	657	18	18
9	640-670	657		
9-10	640-710	657		

Table 6: Phases at Rödingen, and their mid-points as plotted on graphs

4.1.6. Cutry – Eastern Frankia

Cutry is located in the Meuthe-et-Moselle department of France, near the border with Belgium and Luxembourg. The site was discovered during construction in 1968, but not properly excavated until 1972, after which excavations continued until 1991 (Legoux 2005, 36). A total of 275 graves were excavated. The site was near a Gallo-Roman cemetery, consisting largely of cremation burials with a few inhumations, but burial there ceased sometime during the fourth century (Liéger 1997, 13, 105). There was a hiatus in the area during the first three quarters of the fifth century, before burial in the Merovingian cemetery began around 470, and continued until the late seventh century. It was estimated that the population using the cemetery reached its peak of 100 people during the first half of the seventh century, before declining to around 20 individuals at the end of the seventh century (fig. 133).

Again, grave good provision at Cutry was higher than the regional average, 4.11 objects per grave compared to 3.06 objects. The original report described it as one of the richest sites in the region (Legoux 2005, 226). Dress accessories were the most common type of object found in the graves of Cutry, though this was closely followed by personal accessories. Only tools, amulets, and coins could really be considered rare categories of object, and animal remains were entirely absent from these graves (fig. 134).

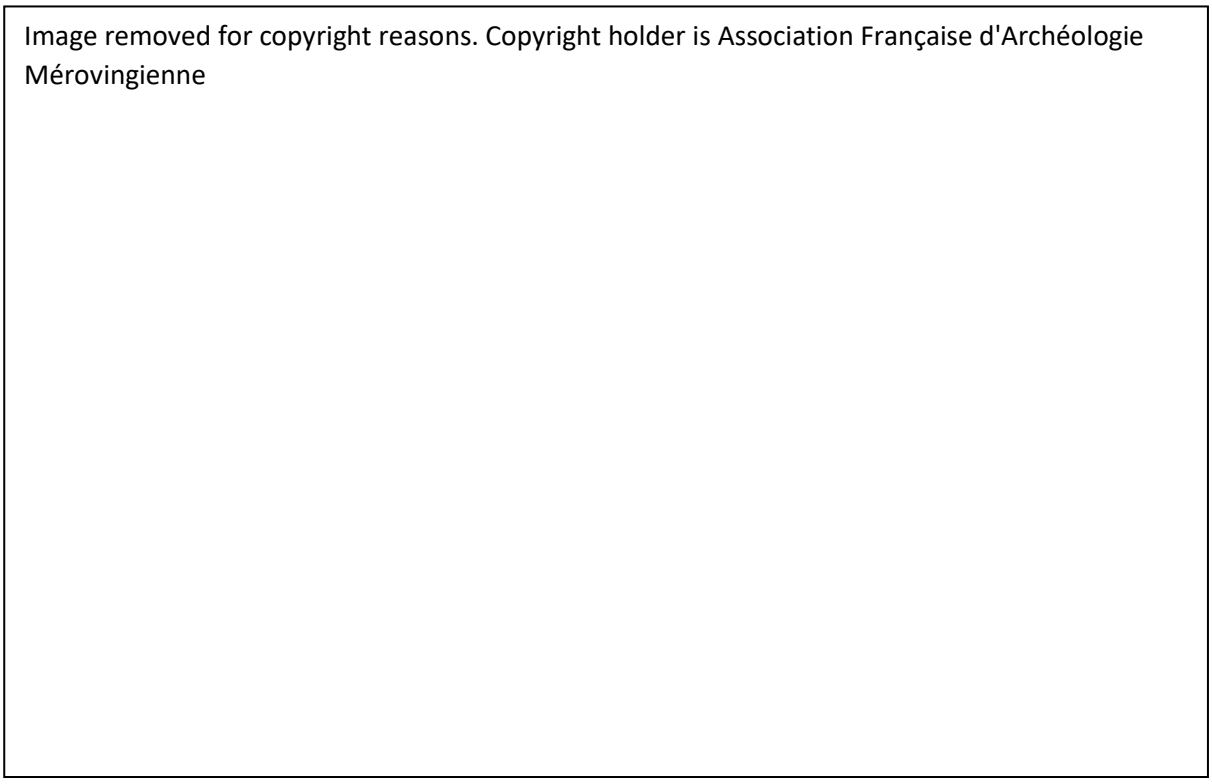

Figure 133: Estimated size of the population using the cemetery of Cutry (Legoux 2005, 75, fig.62)

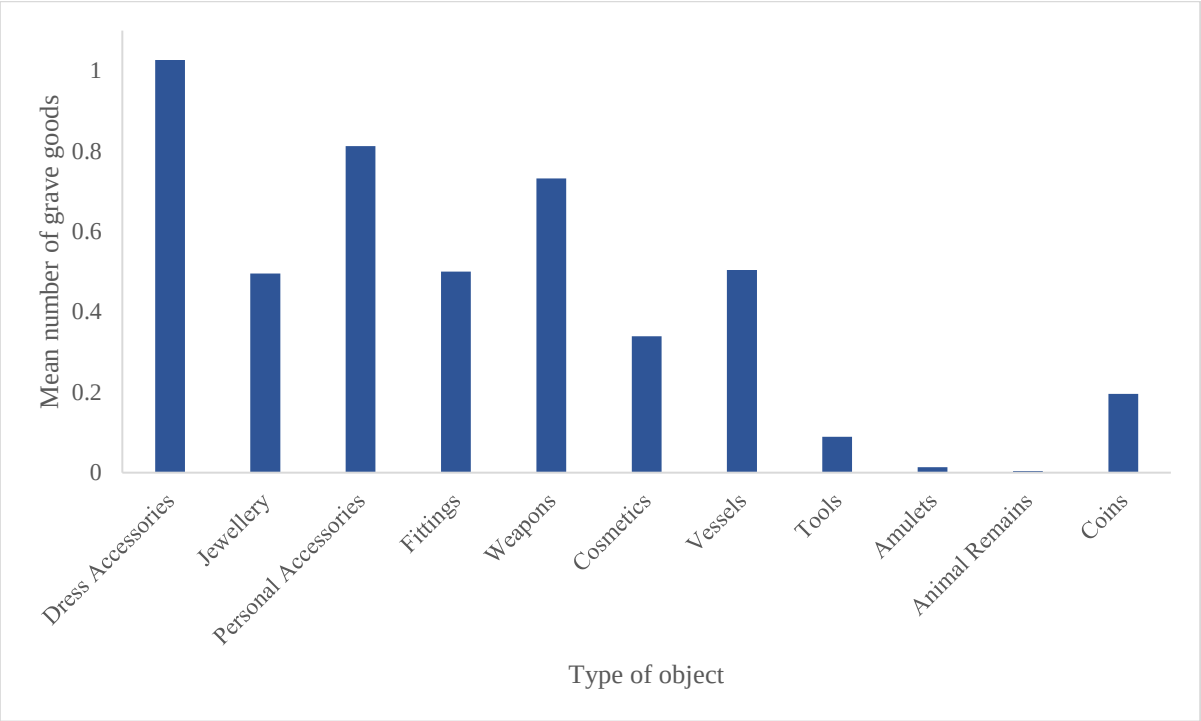

Figure 134: The average number of different types of object in the dated graves at Cutry

4.3.2.1. Cemetery Phases

The cemetery was subject to its own internal seriation, using the Chronologie Normaliseé as a guide. This dated 224 graves to one of seven phases, meaning that 81% of the graves in the cemetery could be analysed. As with Bulles, a phase H was added, consisting of 'later' unfurnished burial. However, without independent evidence for their dating these graves could not be included in any analysis.

The graves at Cutry were unevenly distributed between phases, but there was a reasonable sample from the late fifth to early sixth century, the late sixth century, and the early seventh century (fig. 135).

There was relatively little disturbance affecting the graves at Cutry, and the disturbance that occurred was largely the result of the intercutting of graves, rather than deliberate reopening. The masculine and feminine assemblages were both evenly distributed across the cemetery's use. Disturbed graves have been excluded, as especially when looking at the gendered assemblages, many trends became weaker or insignificant, when they were included.

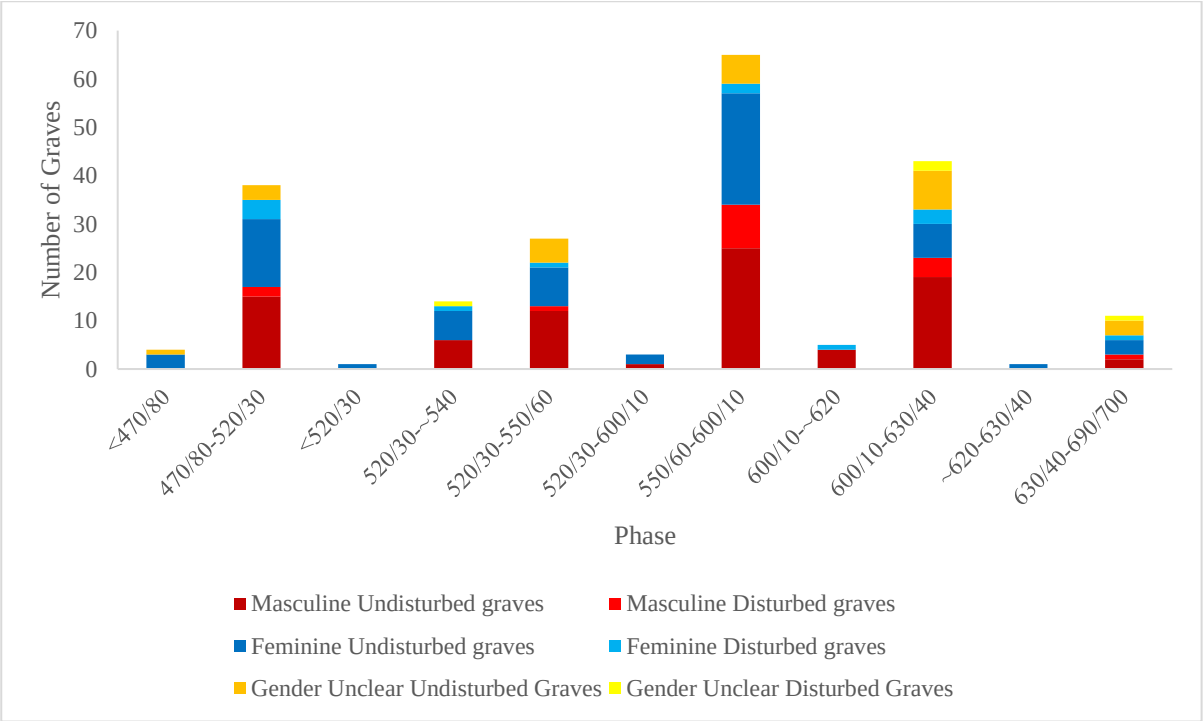

Figure 135: Number of graves belonging to each phase at Cutry

Phase	Date-Range	Mid-point	Number of Grave	Number of Undisturbed Graves
ABC I	<470/80	470	4	4
ABC II	470/80-520/30	500	38	31
ABC I-II	<520/30	~490	1	1
BC	520/30-~540	530	13	11
BCD	520/30-550/60	540	28	26
BCD-CDE	520/30-600/10	565	3	3
CDE	550/60-600/10	580	64	53
CDE-DEF	550/60-630/40	595	2	2
DE	600/10-~620	610	5	4
DEF	600/10-630/40	620	44	35
EF	~620-630/40	630	1	1
FG	630/40-690/700	665	11	8

Table 7: Phases at Cutry, and their mid-points as plotted on graphs

4.1.7. Dover Buckland - Kent

The cemetery of Dover Buckland in Kent was excavated in two separate seasons, one in the 1950s and one in the 1990s, giving a total of 425 graves. The original number of graves is likely to have been higher, but some were destroyed during early building work (Parfitt and Anderson 2012, 370). It was suggested that this cemetery was used by a local community made up of several household groups, and the different burial plots may represent these households, though the settlement itself is unknown (Parfitt and Anderson 2012, 368, 372). It was in use from the early sixth to the late seventh century, and was abandoned at the same time as most of the other furnished cemeteries in England.

In comparison to the rest of Kent, Buckland was a rich cemetery. Grave good provision was above average; a mean of 3.05 objects per grave, compared to 2.23 objects for Kent as a whole. Personal accessories were by far the most common type of object found in the graves at Buckland, followed by dress accessories and jewellery. Amulets and animal remains were some of the rarest types of object, and while coins, cosmetics, and tools were also rare, this was only in relation to the abundance of personal accessories (fig. 136).

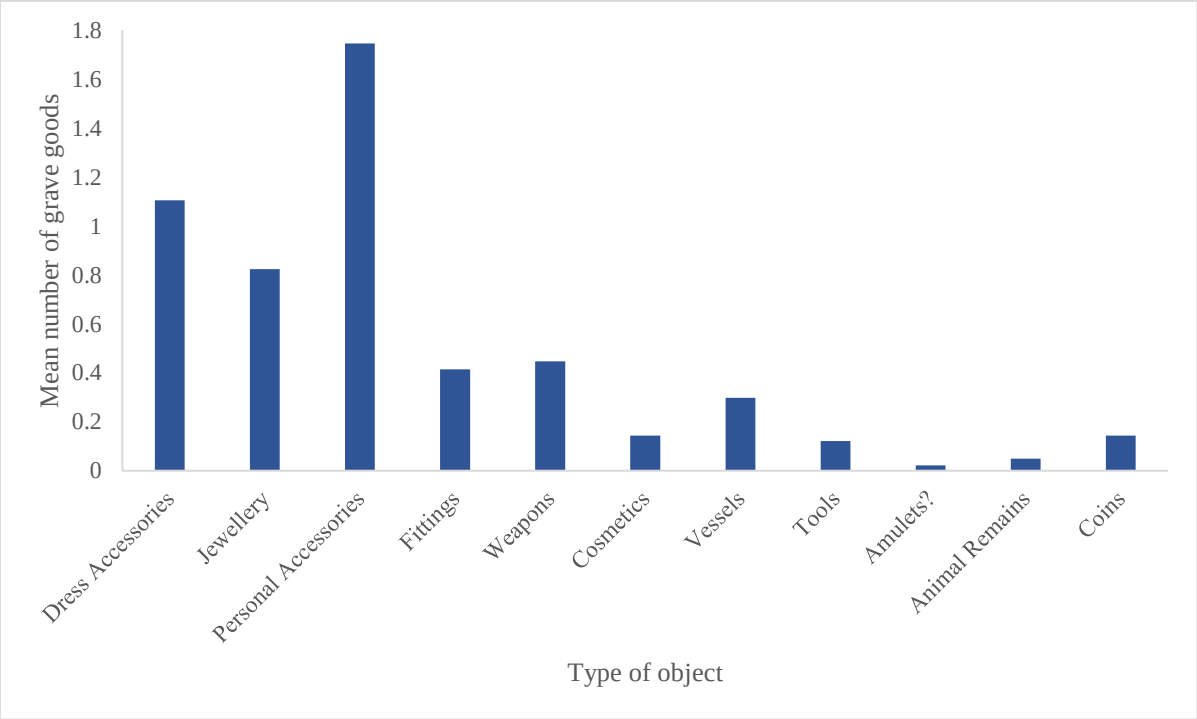

Figure 136: The average number of different types of object in the dated graves of Dover Buckland

4.4.1.1. Cemetery Phases

Although I used Hines and Bayliss as the basis of the chronology for all Anglo-Saxon cemeteries, only small numbers of graves from each cemetery were included in their seriation, so it had to be combined with other methods of dating. Buckland was one of the cemeteries which featured most commonly in the seriation, with 25 graves in the male seriation, and 44 graves in the female seriation. The chronological analysis carried out as part of the original report also used a seriation analysis to phase the burials, and then assigned absolute dates to those phases on the basis of existing artefact typologies (Brugmann 2012, 325). Comparing the graves phased by Hines and Bayliss with those phased in the original seriation showed a close correlation between the two. Given how consistently the two sets of phases matched, the graves which were phased in the original report were re-assigned to one of Hines and Bayliss' phases. This allowed the maximum possible number of graves to be included, giving a final sample of 181, just over 42% of all the graves in the cemetery. Exact details of the phasing used here are provided in appendix 1.5.

The dated graves were not equally distributed throughout the span of the cemetery's use. Almost half of all the graves were dated to 510-585, and there were far fewer graves later (fig. 137). Buckland is one of a small number of Kentish cemeteries where there was no evidence of deliberate grave re-opening (Klevnäs 2013, 193), and there was very little accidental disturbance of graves. The disturbed graves have been included in the following analysis, as excluding them makes no difference to the overall trends. There were more feminine graves than masculine, something which was particularly marked in the earlier period.

Phase	**Date-Range**	**Mid-point**	**Number of Graves**	**Number of Undisturbed Graves**
FA	450-510	480	25	22
MA	450-525	480		
FB	510-585	547	81	76
MB	525-565	547		
MB-D	525-610	578	12	10
MC	545-595	578		
MC-D	545-610	578		
MD	565-610	578		
	540-620 (C14)	578		
FC	555-640	600	11	9
	545-650	600		
FC-D	555-650	600		
FD	580-650	615	14	14
ME	580-645	615		
ME-F	580-685	633	20	20
FE	625-685	652	8	8
MF	610-685	652		

Table 8: Phases at Dover Buckland, and their mid-points as plotted on graphs

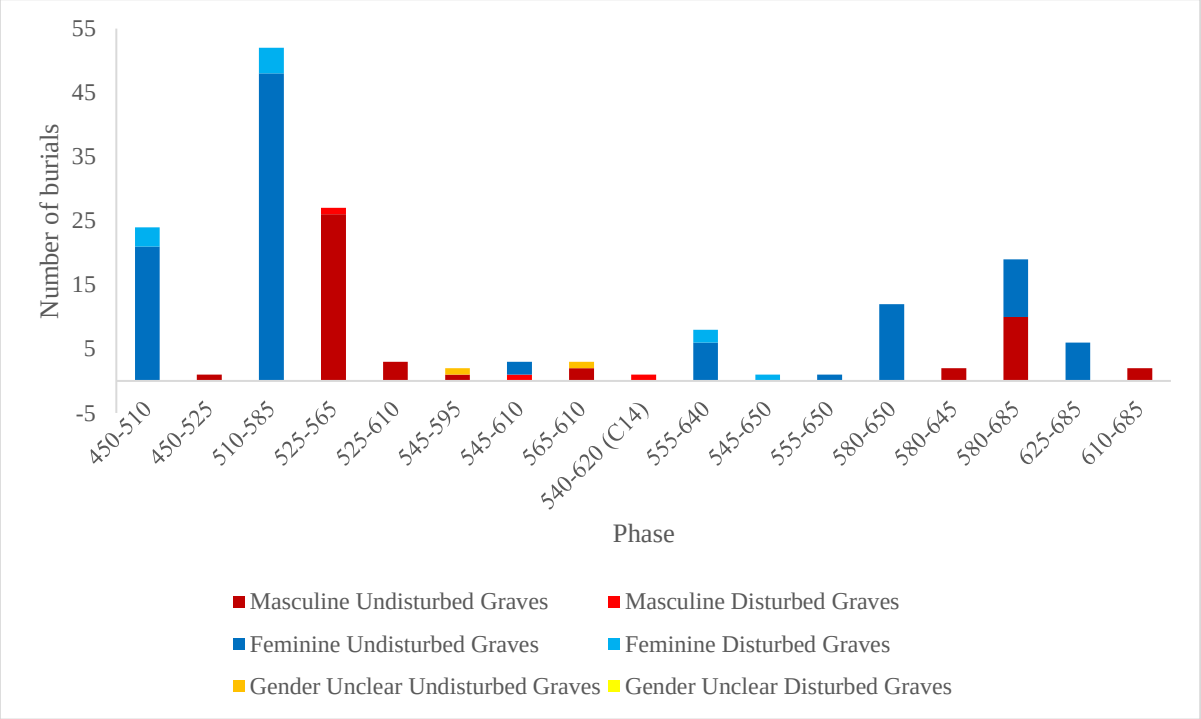

Figure 137: Number of graves belonging to each phase at Dover Buckland

4.1.9. Mucking – Saxon areas

Mucking was a large cemetery and settlement complex which was excavated over a thirteen-year period, between 1965 and 1978 (Hirst and Clark 2009, 1). This makes it one of the few sites in which the associated settlement has been identified and excavated. There was a prior Roman settlement, and though there was most likely a break in occupation between the mid third and early fifth century, there may have been some limited continuity of burial (Evans *et al.* 2016, 492, Lucy and Evans 2016, 436). There were in fact two cemeteries associated with the settlement, located only 150m apart (Hirst and Clark 2009, 683) containing a total of 342 inhumation graves, in use between the early fifth century, and mid seventh century. Cemetery II was fully excavated, but part of cemetery I had been destroyed by quarrying (Hirst and Clark 2009, 9). There were also 463 cremations present. The two cemeteries have been treated as one here, as the provision of grave goods in both was broadly comparable, and their use overlapped chronologically (Hirst and Clark 2009, 683). The settlement at Mucking was in use until the eighth century, which has led to the suggestion that there may be a third, undiscovered cemetery, which contained the missing seventh to eighth century burials (Hirst and Clark 2009, 762).

Grave good provision in Mucking was slightly higher than in the Saxon regions, an average of 2.47 objects per grave, compared to 2.05 objects per grave. The rarest objects in the Saxon regions, tools, amulets, animal remains and coins were even rarer in Mucking than they were in the region as a whole. Dress accessories were the most common type of object in the graves

of Mucking, closely followed by personal accessories. Most other categories of object were rarer; animal remains and coins were extremely rare, and there were no amulets present in any graves (fig. 138).

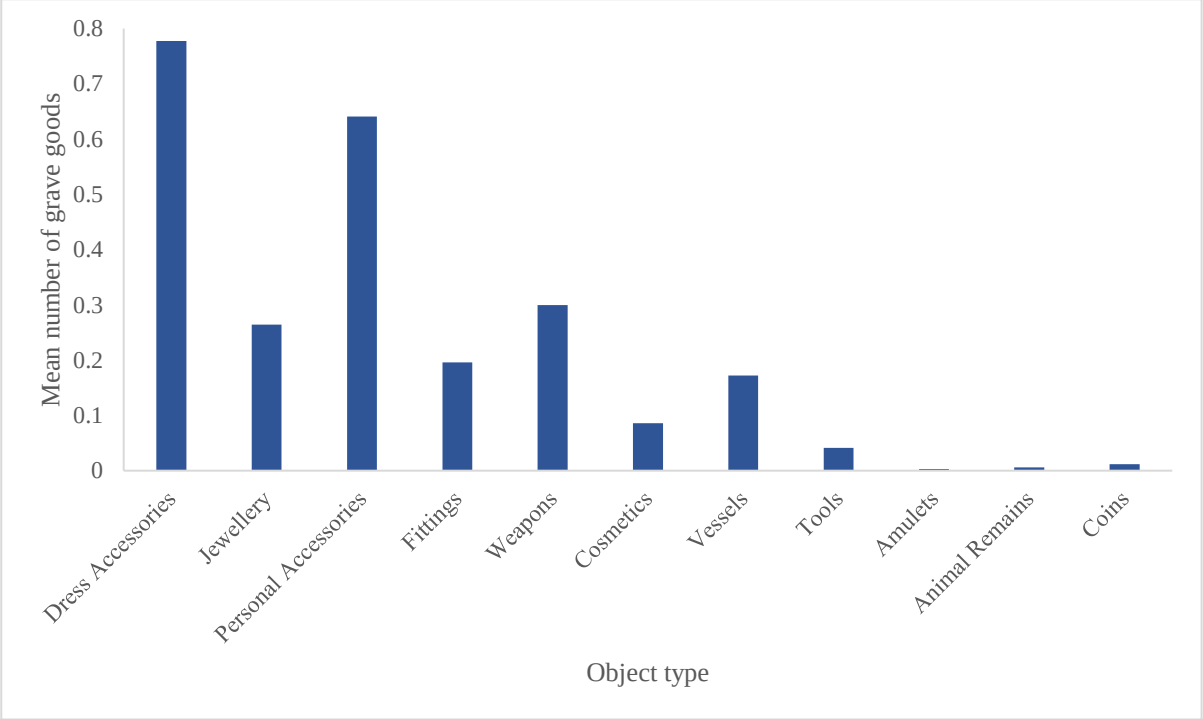

Figure 138: The average numbers of different types of objects in the dated graves at Mucking

4.4.3.1. Cemetery Phases

Eleven graves were included in Hines and Bayliss' seriation, two in the female seriation, and nine in the male, and dates could be assigned to 37 more on the basis of Hines and Bayliss' revised typologies. The original excavation report also contained a chronological seriation analysis, but, unlike at Buckland, there was a marked number of contradictions between the phases of the original analysis, and between Hines and Bayliss' phases. In some cases this was due to the way artefacts, particularly beads, were classified in the original seriation, but in some cases it throws doubt on the validity of the leading artefacts identified by Hines and Bayliss; for example brooch type BR3-f, which Hines and Bayliss place in phase FD-E, is consistently found in graves in Mucking which were otherwise much earlier. Details of these contradictions and how they were resolved are provided in Appendix 1.3.

As with many of the cemeteries, the datable graves were clustered in the late fifth and sixth century, with very few graves dated to the seventh century, or even the late sixth century (fig. 139). Those that were dated to later in the cemetery's use tended to be masculine graves, with the feminine ones clustered earlier in the cemetery's use.

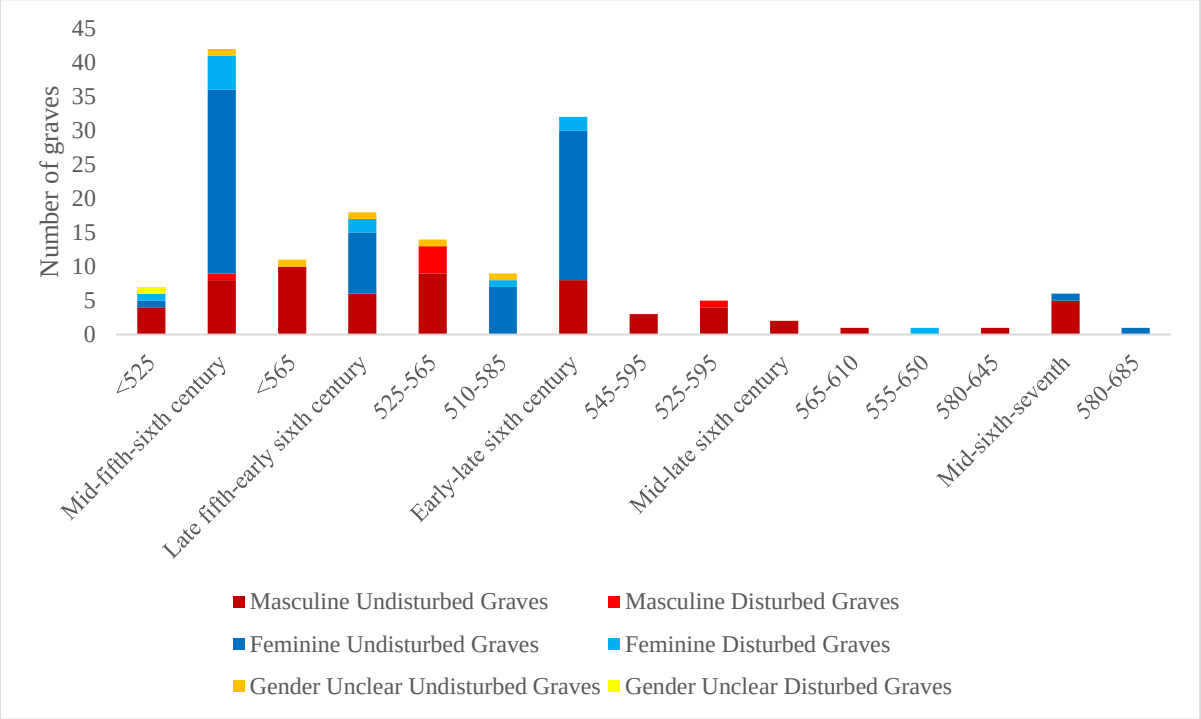

Figure 139: Numbers of graves dating to each period at Mucking

Phase	Date Range	Date	Number of Graves	Number of Undisturbed Graves
MA 1ai/aii	<525 Mid fifth to sixth century	488 488	54	41
MA-B 1aii/aiii	<565 Late fifth to early sixth century	500 500	29	27
MB FB 1bi	525-565 510-585 Early-late sixth century	545 545 545	54	48
MB-C MC 1bii MD	525-595 545-595 Mid-late sixth century 565-610	575 575 575 575	12	10
FC-D ME 1biii/2 FD-E	555-650 580-645 Mid-sixth to early seventh century 580-685	615 615 615 615	9	8

Table 9: Phases at Mucking, and their mid-points as plotted on graphs

4.1.10. Edix Hill – Anglian areas

Edix Hill is a cemetery near Cambridge, which was in use from the mid fifth century to the mid seventh century, and contained 127 graves, making it the smallest cemetery to be chosen as a case study. There was evidence from only one grave that it continued to be used until the

end of the period of furnished burial in England, but it is likely that some of the unfurnished burials also date from this later period. Nineteenth-century excavations uncovered 40 to 50 graves, but the majority of it was excavated over three years from 1989-1991 (Malim and Hines 1998, 7-11). Edix Hill was located on the border of the Anglian region.

The average level of furnishing was very similar to East Anglia, 2.74 objects compared to a regional average of 2.67. Edix Hill differs considerably from the regional averages according to some characteristics, for example the proportion of unfurnished burials was half that of the region as a whole. Almost every category of object was more common in the graves of Edix Hill than in the region of a whole, apart from vessels, which were found half as frequently. Dress accessories and personal accessories were the most common types of objects, closely followed by jewellery, fittings, and weapons. All other types of objects were much rarer, especially amulets and animal remains (fig. 140).

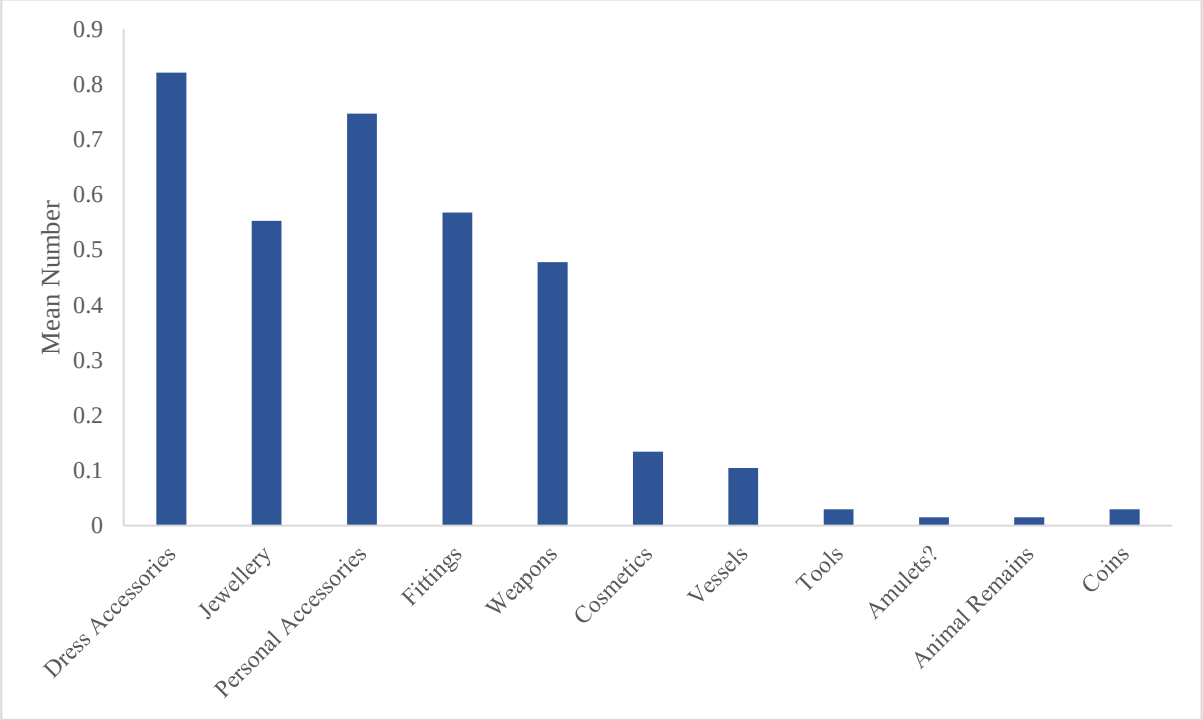

Figure 140: The average number of different types of object in the dated graves at Edix Hill

4.4.4.1. Cemetery Phases

Fourteen graves were included in Hines and Bayliss' seriation, four from the female, and ten from the male seriation, and additionally one grave was radiocarbon dated, but was not ultimately included in the seriation. I assigned a further twelve on the basis of their leading artefact types (see appendix 1.5 for details). Unusually for an Anglo-Saxon cemetery, intercutting of graves allowed stratigraphic dates to be assigned to 21 other graves. The original phasing from the excavation report was also integrated. This was a reasonably

simplistic system, which assigned graves to either an earlier ‘migration phase’, or a later ‘conversion phase’ on the basis of grave goods. These largely correspond with the phasing of Hines and Bayliss, though, and so have been included here with estimated date ranges. This gave a total of 67 dated graves which could be analysed.

Within the dated graves, levels of disturbance were quite high, at around 25%. However, it makes little difference to the overall statistics whether those graves were included. As with many sites there were more early graves than later, and in Edix Hill there was a particular bias towards the sixth century as opposed to the seventh. While the masculine graves were relatively evenly distributed throughout, there were far more feminine graves earlier, in the sixth century (fig. 141).

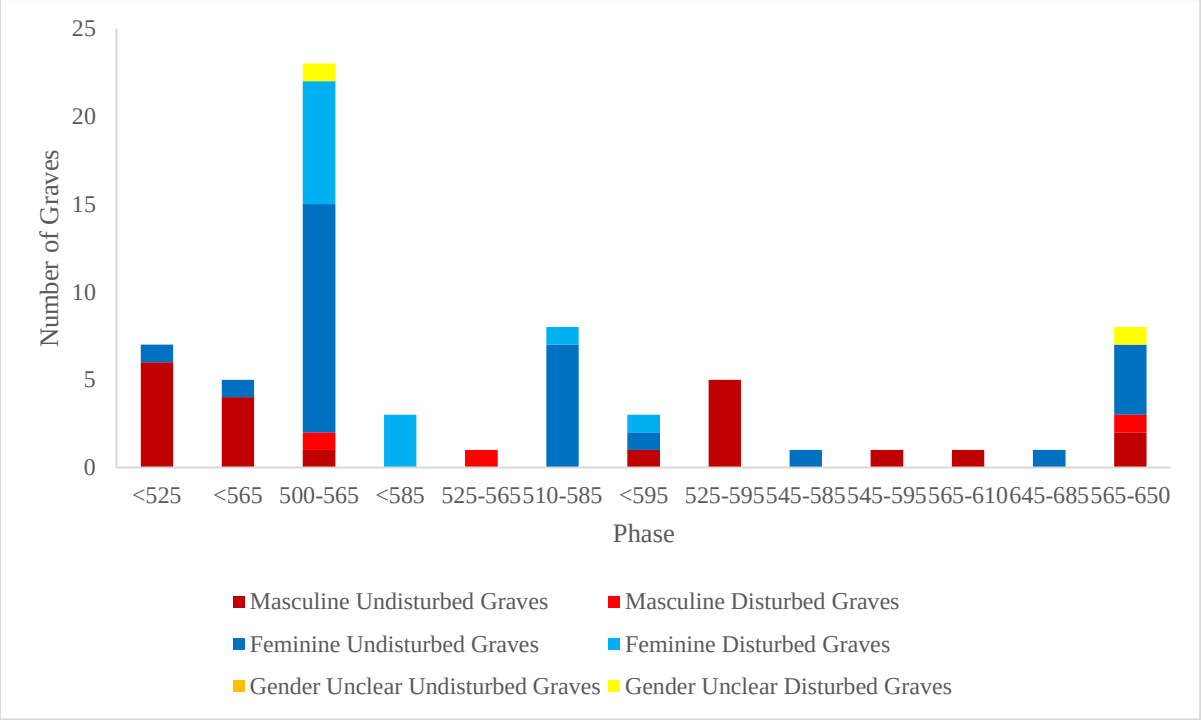

Figure 141: Numbers of graves dating to each phase at Edix Hill

Phase	Dates	Mid-point	Number of Graves	Number of Undisturbed Graves
MA	<525	513	7	7
MA-B	<565	532	28	19
I	500-565	532		
FA-B	<585	543	16	10
MB	525-565	545		
FB	510-585	548		
MA-C	<595	548		
MB-C	525-595	560	5	5
FB + C14	545-585	565	1	1
MC	545-595	570	1	1
MD + C14	565-610	588	1	1
II	565-650	607	8	6
FE + C14	645-685	665	1	1

Table 10: Phases at Edix Hill, and their mid-points as plotted on graphs

4.2. Local and Global Patterns of Change

4.2.1. Changing Numbers of Grave Goods in Individual Sites

There were four different patterns of change in overall numbers of grave goods in the cemeteries analysed. Grave good use could increase to a peak before decreasing steadily, it could decrease suddenly between two phases, but be static either side of that, it could decrease steadily across the entirety of the cemetery's use, or it could remain static.

Pleidelsheim (fig. 142) and Rödingen (fig. 143) followed the first pattern. At Pleidelsheim, the average number of objects increased steadily from around two objects per grave in the mid fifth century, to four to five objects in the early sixth century. Numbers then fell again from the late sixth century onwards, in some of the strongest linear trends seen in an individual cemetery. The changes at Rödingen were not quite as extreme; throughout the sixth century, the mean number of grave goods remained relatively static between 2.5-3 objects per grave, but increased slightly to reach a peak at 3.6 objects per grave in the late sixth century, after which point it decreased to just over two objects per grave.

Altenerding (fig. 144), Cutry (fig. 146) and Mucking (fig. 145) all saw a sudden change between two phases. At Altenerding, the change occurred in the second half of the sixth century, falling from around six objects per grave before this point, and three to four objects afterwards. At Cutry, the key point was just before the mid sixth century, when the average fell from around seven objects per grave, to 3.5 to 5. The change at Mucking also occurred between the mid and late sixth century, from around 4.3 objects to 2.5 objects per grave.

Bulles (fig. 147) showed a steadier decrease. Grave good use in the fifth and the first half of the sixth century varied between 2.5 and five objects per grave, but from the mid sixth century onwards, there was a steady decrease in grave good deposition, until the final phase where burial was almost completely unfurnished.

It is important to note that there a complete loss of grave goods in only one instance, and in the cemeteries where there was a decrease following a peak, the frequency with which they were used in the last phase was no lower than in the first phases. Only at Bulles could it be demonstrated that there was a period of unfurnished use at the end of the cemetery's life span, although a period of unfurnished burial was also speculated to have existed in Grande Oye. It is likely that similar phases existed in other cemeteries, but these are not visible with the evidence we currently have; it would require a more comprehensive use of radiocarbon dating, focusing on unfurnished burials to be able to identify them.

At Grande Oye (fig. 148), Dover Buckland (fig. 149) and Edix Hill (fig. 150), there was no change over time. The dip visible in phase HD1/2 at Grande Oye was most likely because there was an unusual number of unfurnished graves from this period dated by stratigraphic relationships[2]. While grave good use did vary between phases at Buckland, between an average of 4.2 and 7.1 objects per grave, there was no clear trend to this variation. If anything, there appears to have been a slight increase over time at Edix Hill; grave good deposition in the sixth century varied between three and five objects per grave, but the highest average was found in the final phase, of six objects per grave. One grave was responsible for this peak, though, and so it is not statistically significant.

[2] 12 graves out of 19

Cemeteries with Statistically Significant Decreases After a Peak

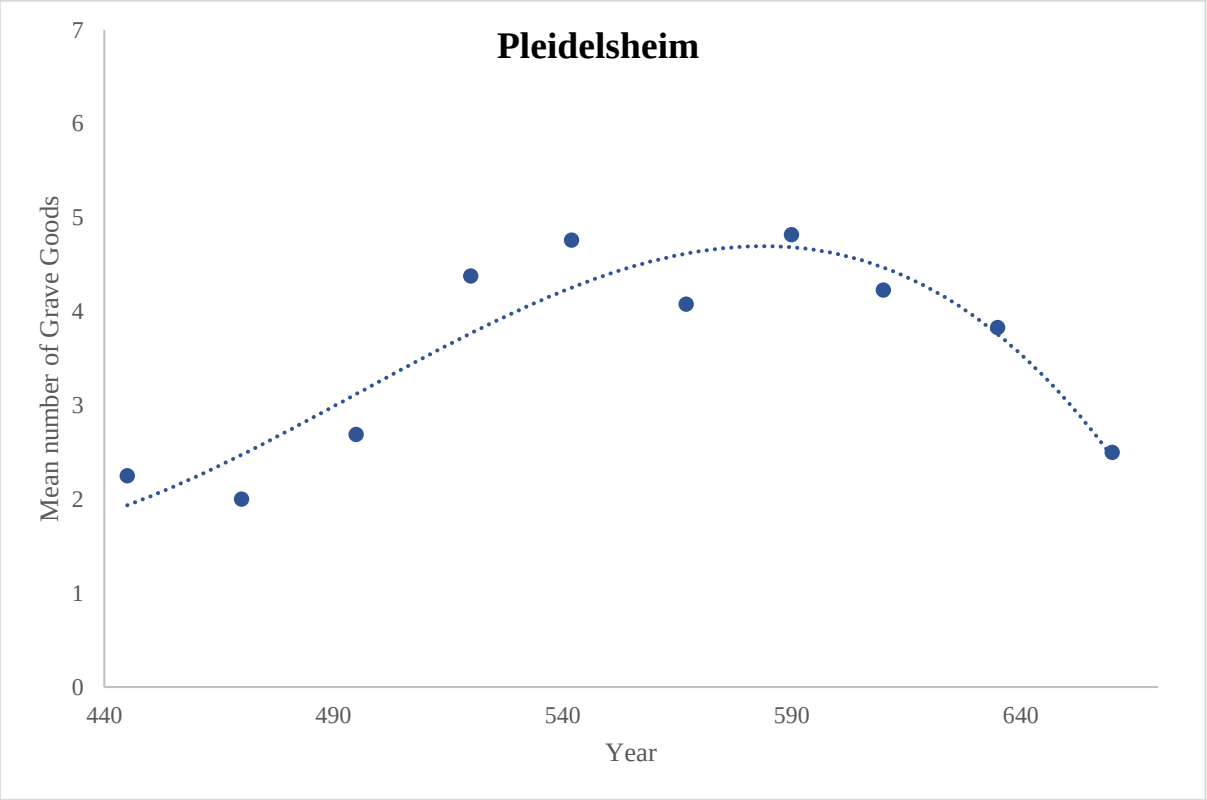

Figure 142: The average number of objects per phase in Pleidelsheim. Polynomial trendline order 3. For the trend from 590 onwards, r_s=-0.286, p=0.038

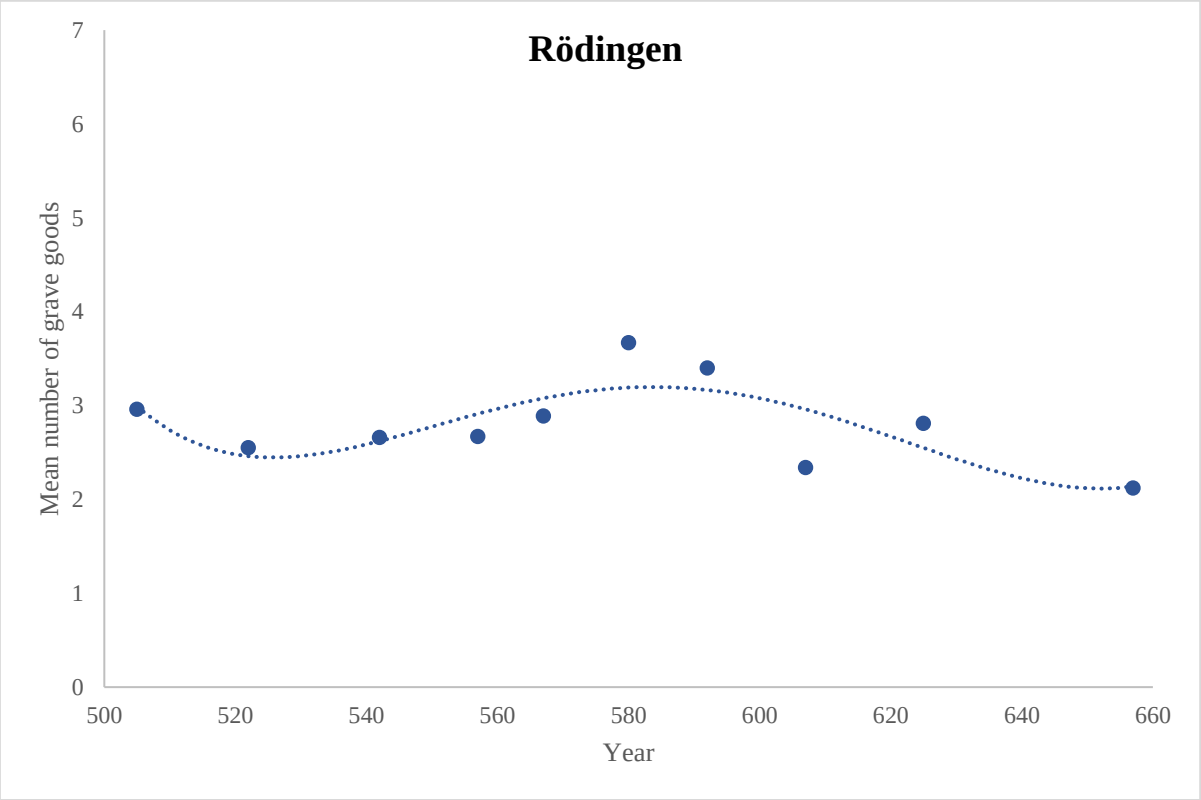

Figure 143: The average number of objects per phase in Rödingen. Polynomial trendline order 5. Trend from 580 onwards, r_s=-0.245, p=0.001

Cemeteries with a sudden decrease

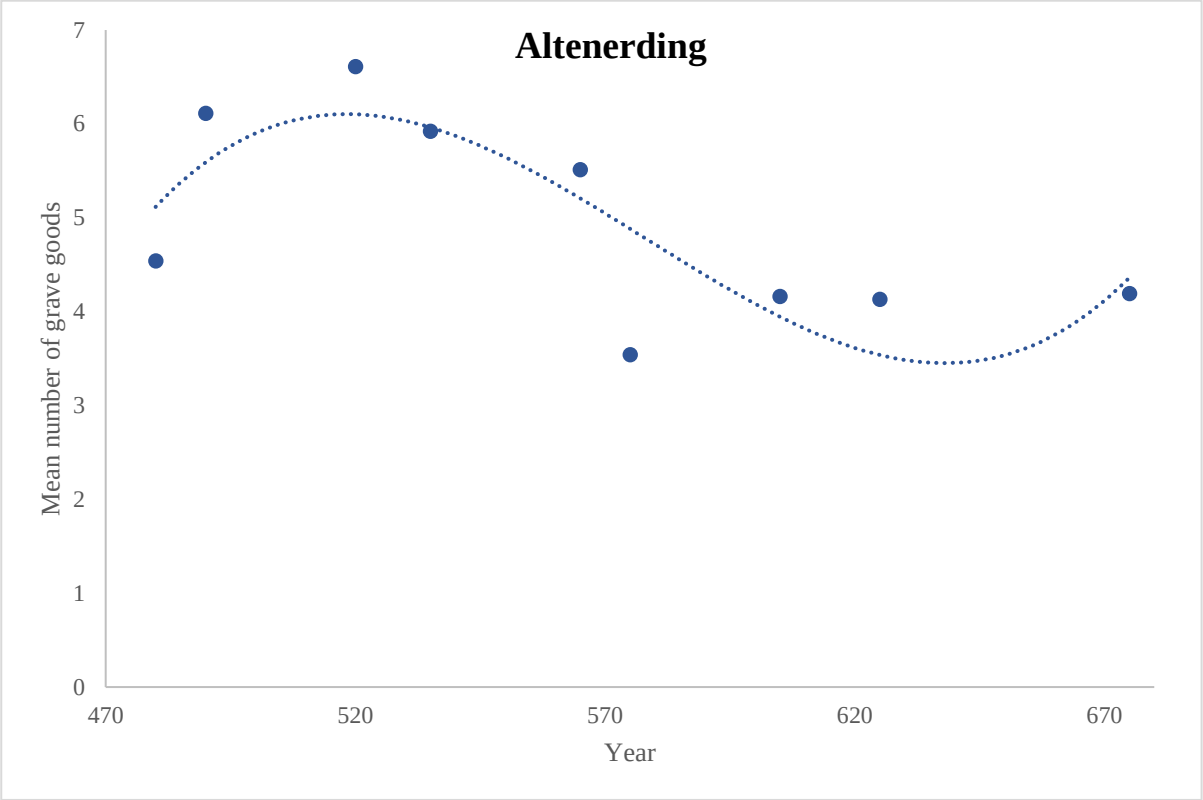

Figure 144: The average number of objects per phase in Altenerding. Polynomial trendline order 3. For the trend from 520 onwards, r_s=-0.299, p<0.0005

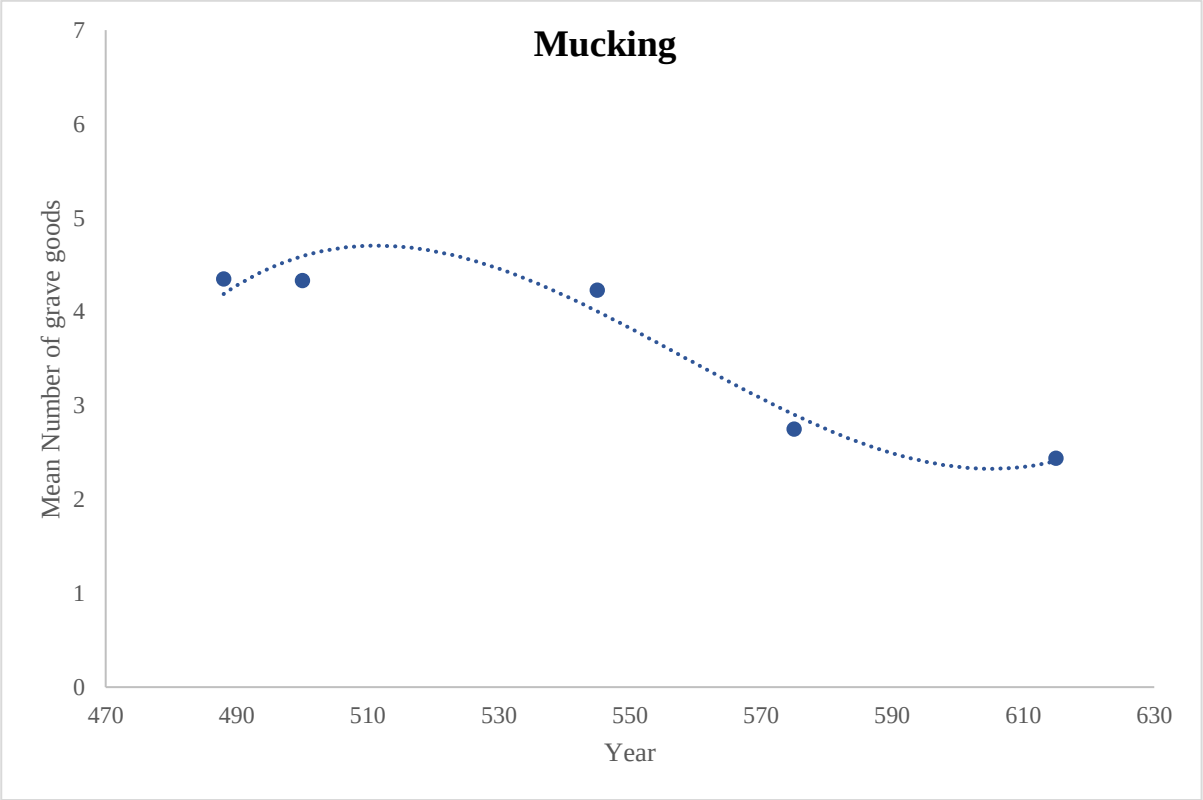

Figure 145: The average number of objects per phase in Mucking. Polynomial trendline order 3. r_s=-0.174, p=0.030

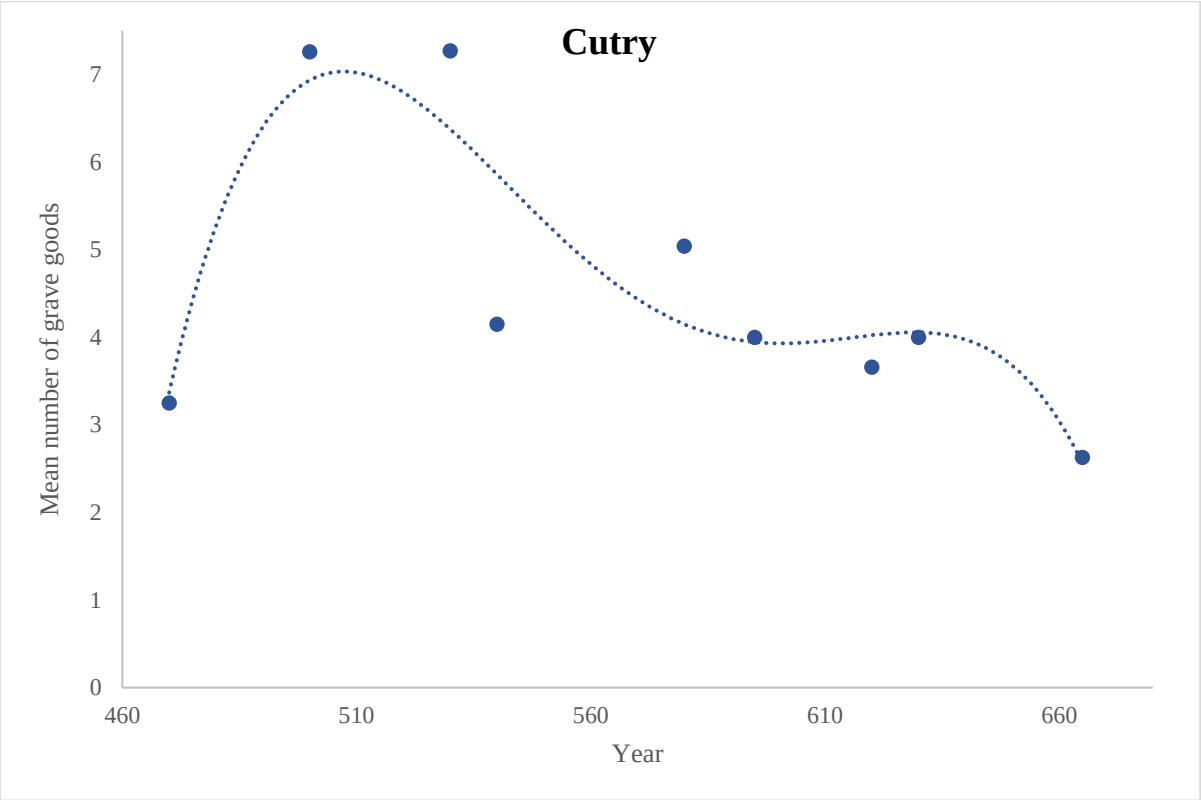

Figure 146: The average number of objects per phase in Cutry. Polynomial trendline order 4. For the trend from 500 onwards, r_s=-0.319, p<0.0005.

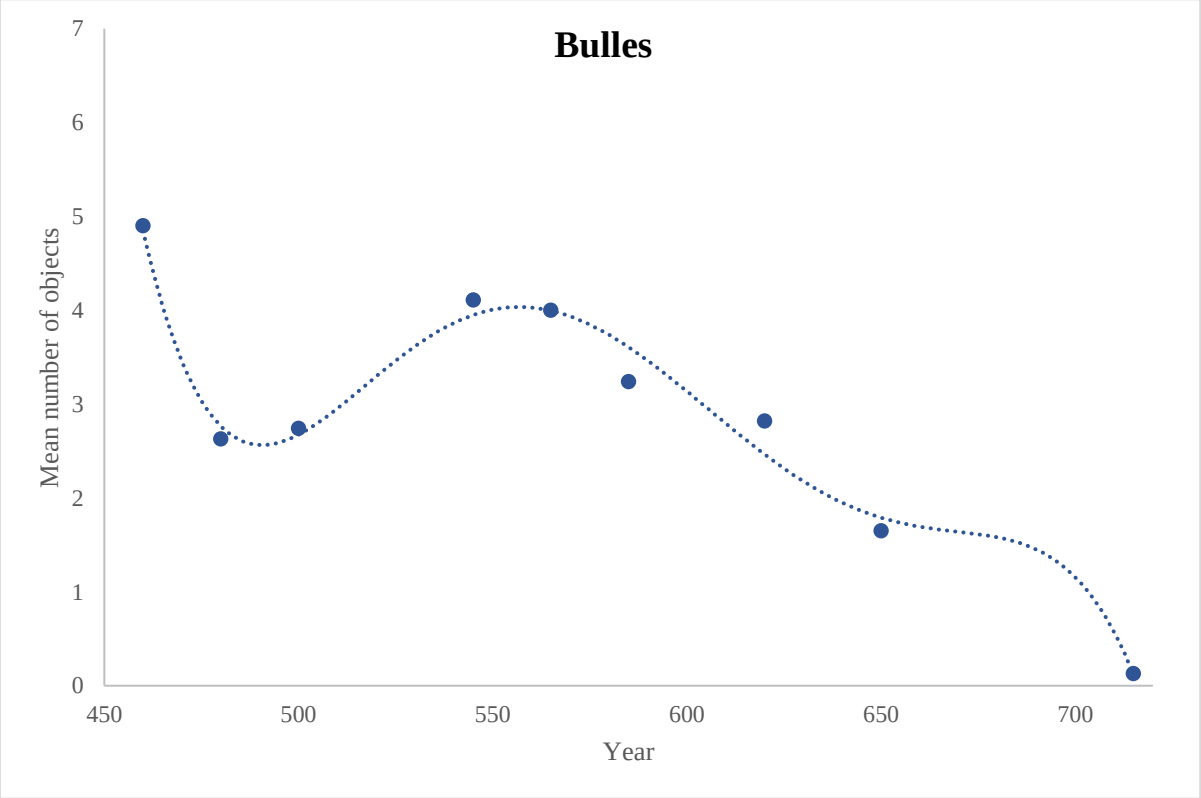

Figure 147: The average number of objects per phase in Bulles. Polynomial trendline order 5. For trend from 545 onwards, r_s=-0.381, p<0.0005.

Cemeteries with no Statistically Significant Change

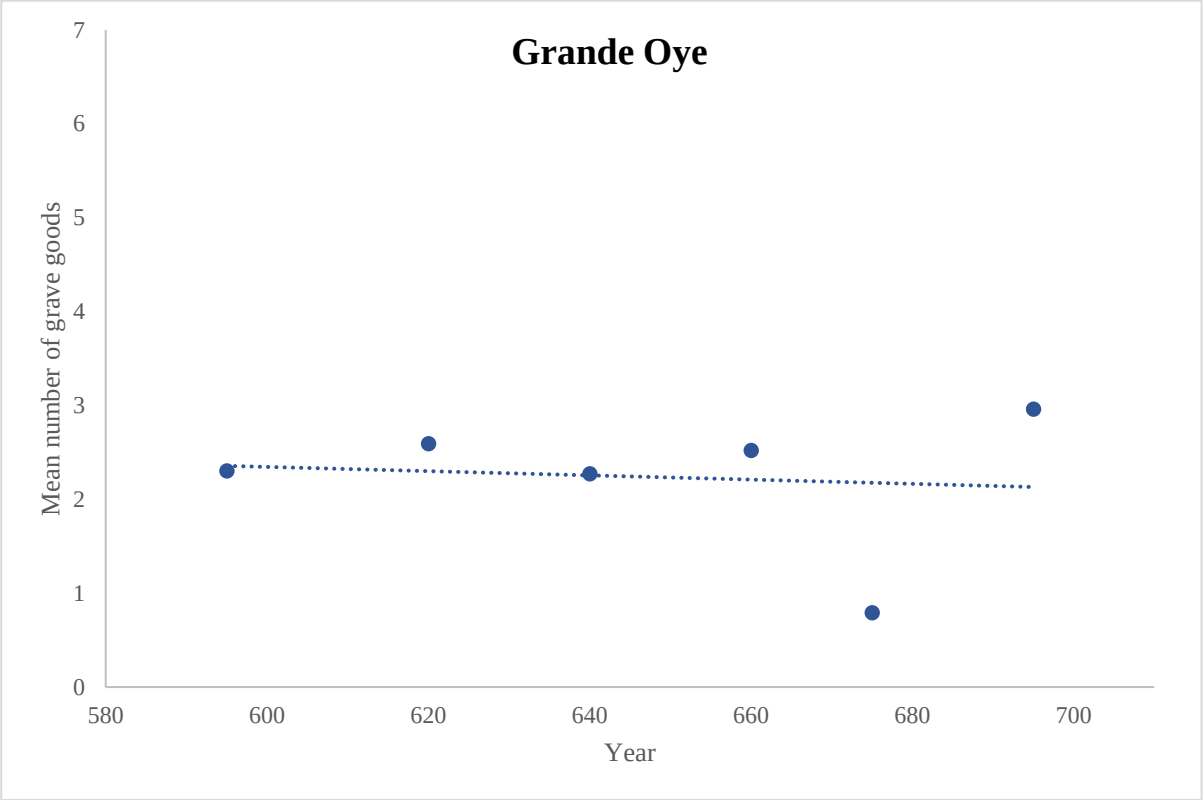

Figure 148: The average number of objects per phase in Grande Oye. Linear trendline (r_s=-0.031, p=0.724)

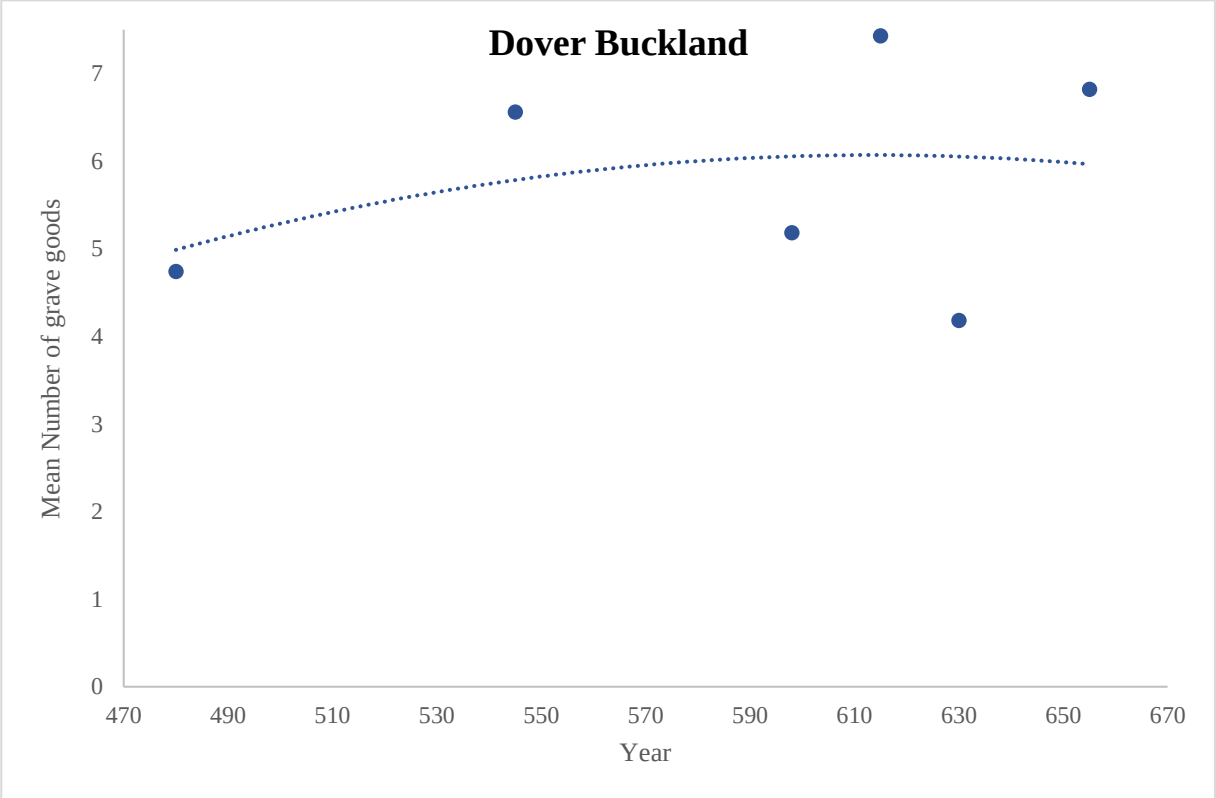

Figure 149: The average number of objects per phase in Dover Buckland. Polynomial trendline order 2. r_s=0.073, p=0.381

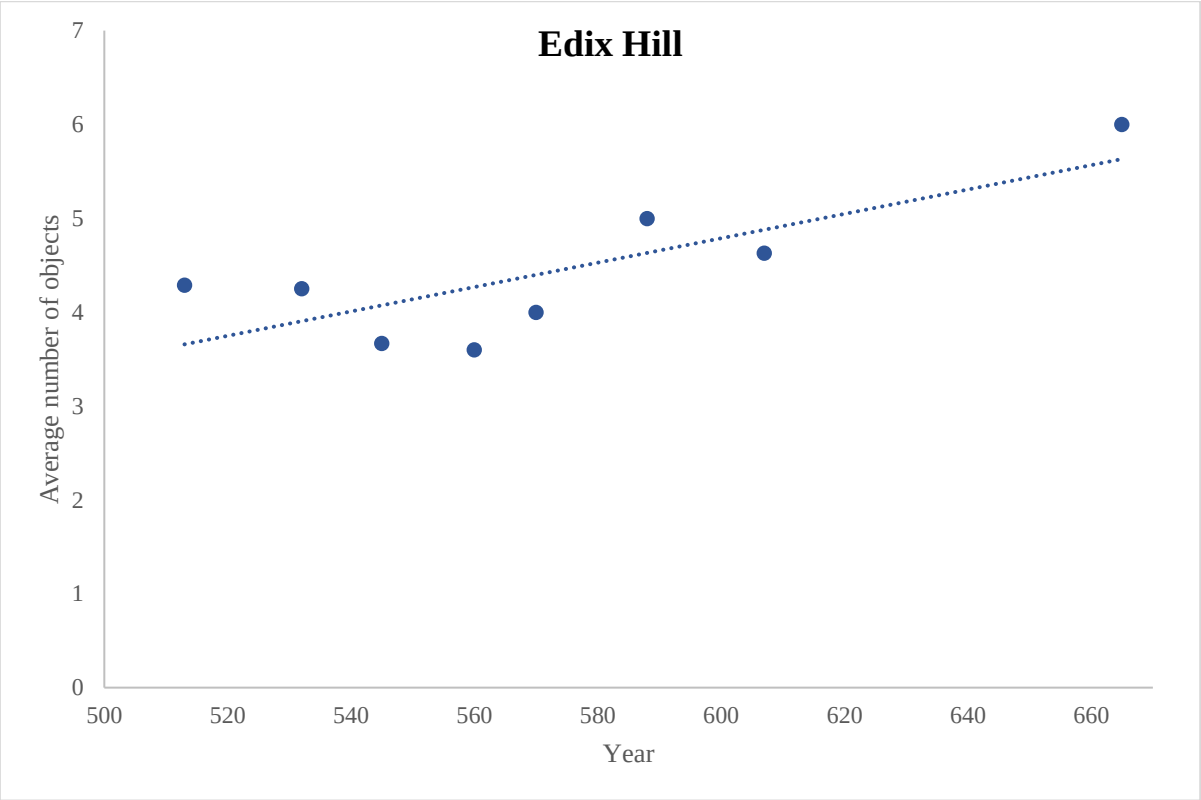

Figure 150: The average number of objects per phase in Edix Hill. Linear trendline. r_s=-0.051, p=0.684

4.2.2. Types of Grave Goods

In addition to the change in overall numbers, many cemeteries also saw decreases in the types of objects being used. The cemeteries which saw the strongest decreases in overall numbers, unsurprisingly also saw the most changes in individual object types.

Pleidelsheim (fig. 151), Cutry (fig, 152), Bulles (fig. 153), Rödingen (fig. 154), and Altenerding (fig. 155) all saw many of their object types decreasing in frequency. This was usually the most commonly found objects, while the rarer types, such as amulets, animal remains, and coins were far less likely to decrease over time.

Those cemeteries which had overall static numbers, however, tended to have changes in far fewer object types; Grande Oye (fig. 156), Buckland (fig. 157), and Edix Hill fall into this category. The only object to show any decline at Grande Oye was dress accessories. I suspect, however, that this was a false positive result; although there were far fewer dress accessories in the graves of phase HD1/2, those of the following and final phase contained just as many dress accessories as earlier phases had done.

While the changes observed were often decreases in the frequency in which objects were placed in graves, there were some cases where object types became more popular; weapons increased in frequency at Altenerding and Mucking (fig. 158); dress accessories at Rödingen became more commonly placed in graves from the start of the seventh century onwards. This suggests that this was a period of changing, not just declining, grave good use.

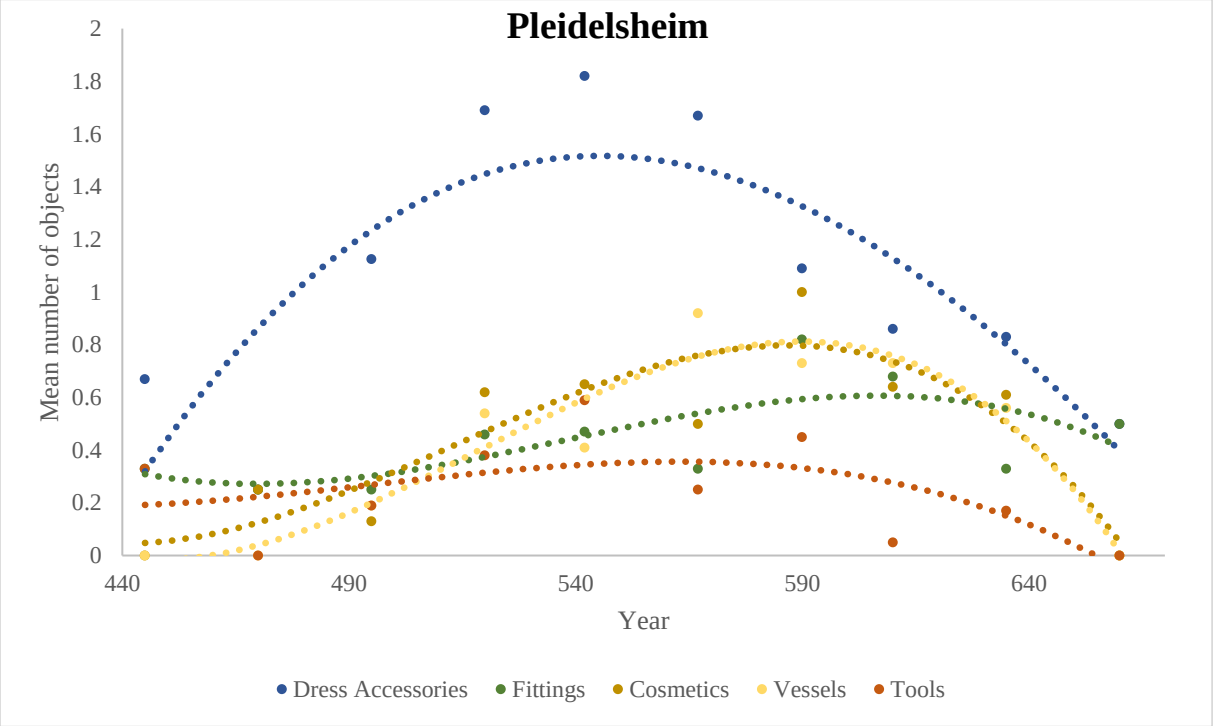

Figure 151: Statistically significant changes in different types of object at Pleidelsheim. Polynomial trendlines order 3

	Dress Accessories	*Fittings*	*Cosmetics*	*Vessels*	*Tools*
R_s-value	*-0.404*	*-0.368*	*0.245*	*-0.251*	*-0.263*
P-value	*<0.0005*	*0.007*	*0.007*	*0.005*	*0.017*
Date	*530*	*580*	*430*	*430*	*530*

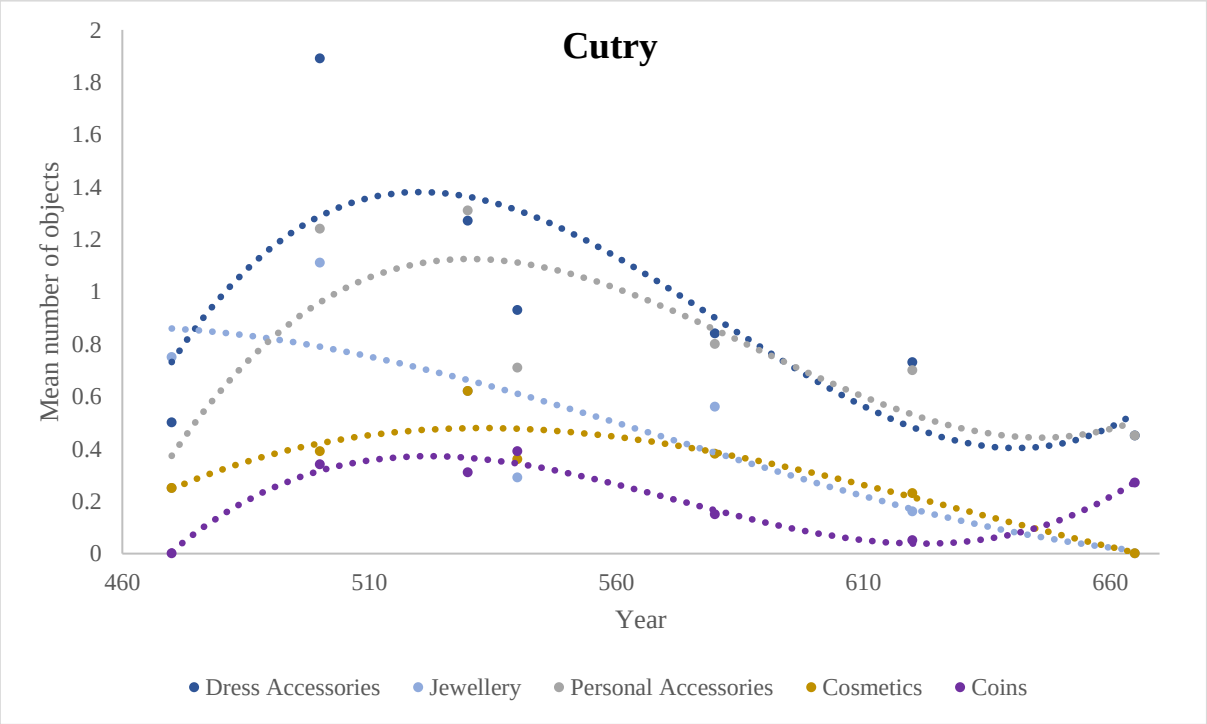

Figure 152: Statistically significant changes in different types of object at Cutry. Polynomial trendlines order 3

	Dress Accessories	*Jewellery*	*Personal Accessories*	*Cosmetics*	*Coins*
R_s-value	*-0.305*	*-0.302*	*-0.230*	*-0.234*	*-0.242*
P-value	*<0.0005*	*<0.0005*	*0.001*	*0.002*	*<0.0005*
Date	*470/80*	*470/80*	*470/80*	*520/30*	*470/80*

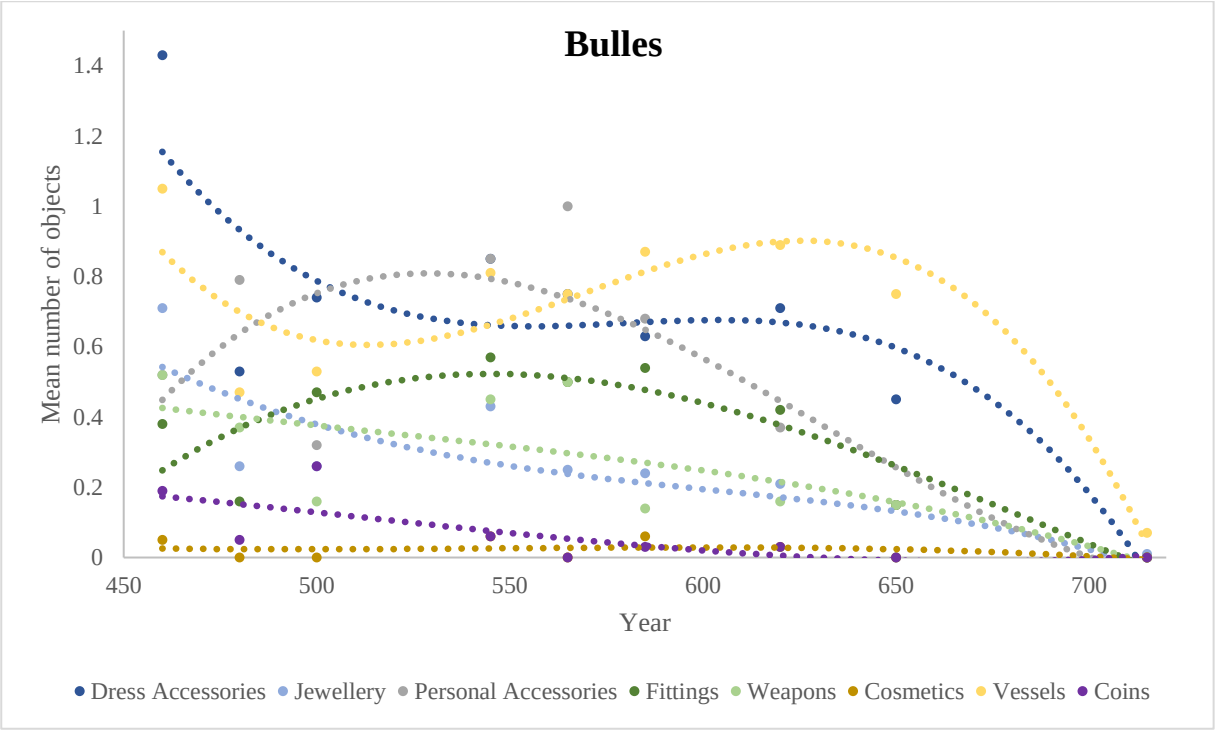

Figure 153: Statistically significant changes in different types of object at Bulles. Polynomial trendlines order 3

	Dress Accessories	*Jewellery*	*Personal Accessories*	*Fittings*	*Weapons*	*Cosmetics*	*Vessels*	*Coins*
R_s-value	*-0.342*	*-0.219*	*-0.351*	*-0.296*	*-0.184*	*-0.186*	*-0.463*	*-0.244*
P-value	*0.001*	*0.001*	*<0.0005*	*<0.0005*	*0.002*	*0.005*	*<0.0005*	*<0.0005*
Date	*620*	*520*	*520*	*520*	*460*	*520*	*600*	*460*

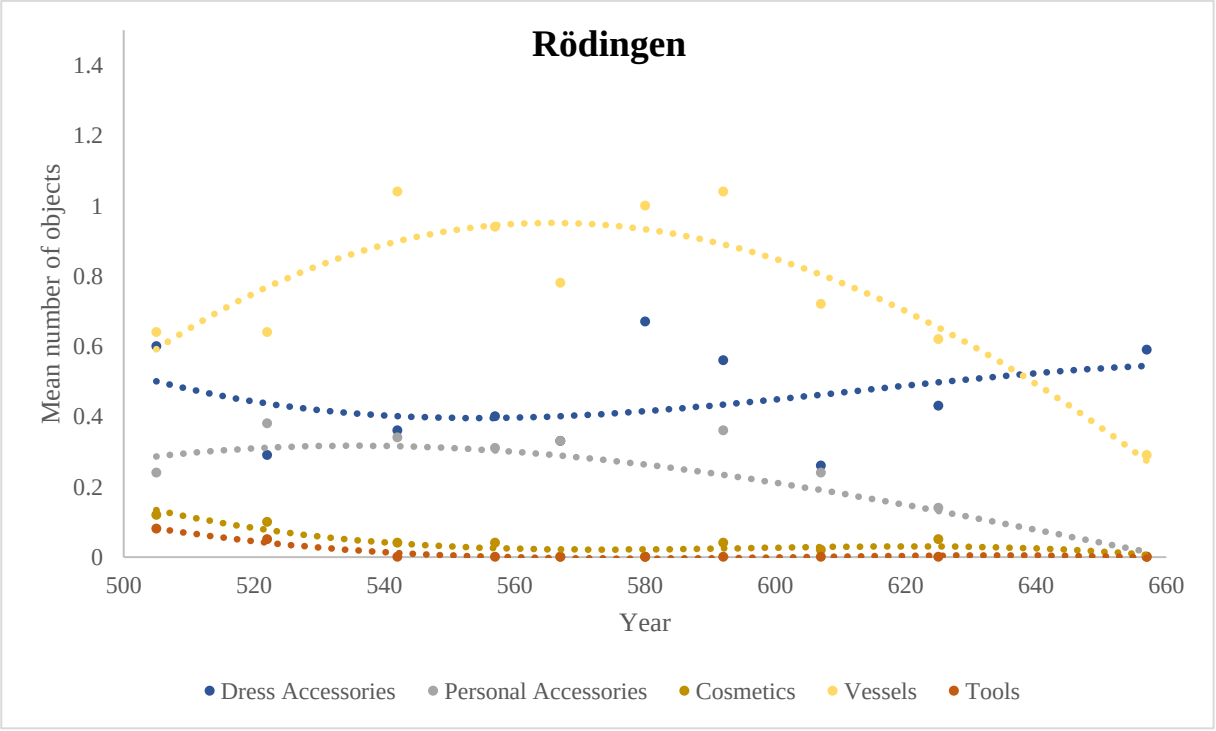

Figure 154: Statistically significant changes in different types of object at Rödingen. Polynomial trendlines order 3

	Dress Accessories	*Personal Accessories*	*Cosmetics*	*Vessels*	*Tools*
R_s-value	*0.299*	*-0.191*	*-0.105*	*-0.316*	*-0.154*
P-value	*0.032*	*0.016*	*0.043*	*<0.0005*	*0.002*
Date	*607*	*592*	*505*	*592*	*505*

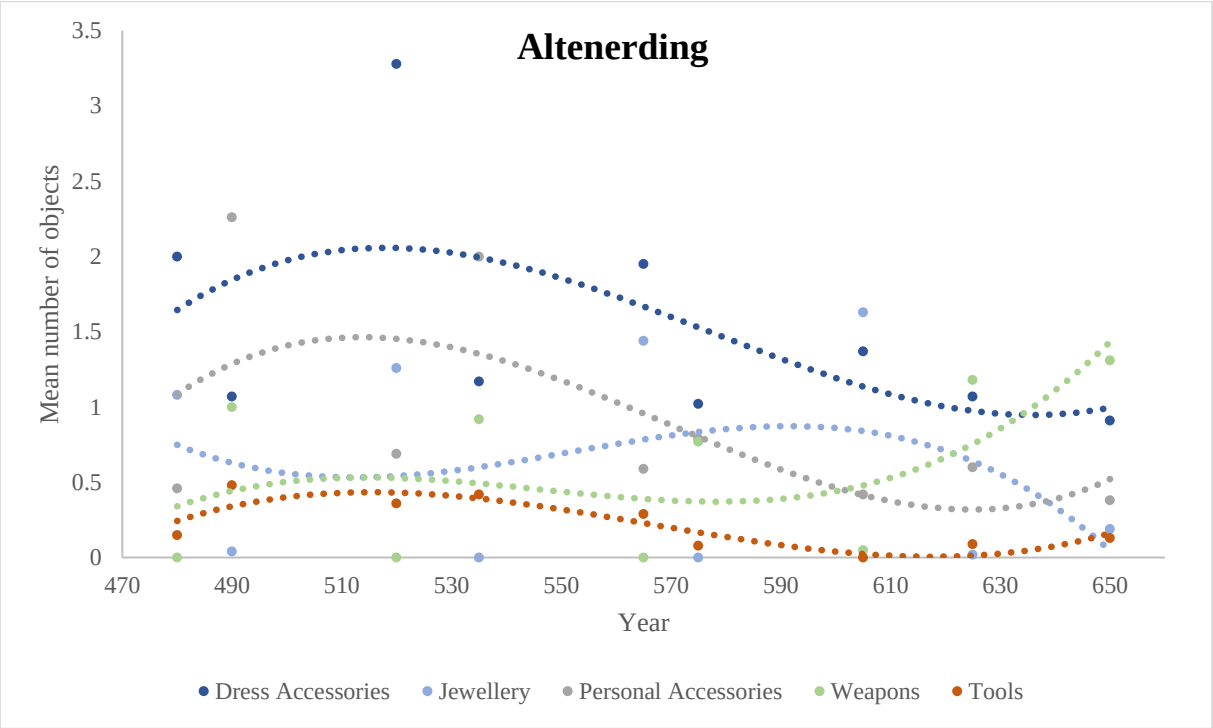

Figure 155: Statistically significant changes in different types of object at Altenerding. Polynomial trendlines order 3

	Dress Accessories	*Jewellery*	*Personal Accessories*	*Weapons*	*Tools*
R_s-value	*-0.369*	*-0.312*	*-0.267*	*0.402*	*-0.266*
P-value	*<0.0005*	*<0.0005*	*<0.0005*	*<0.0005*	*<0.0005*
Date					

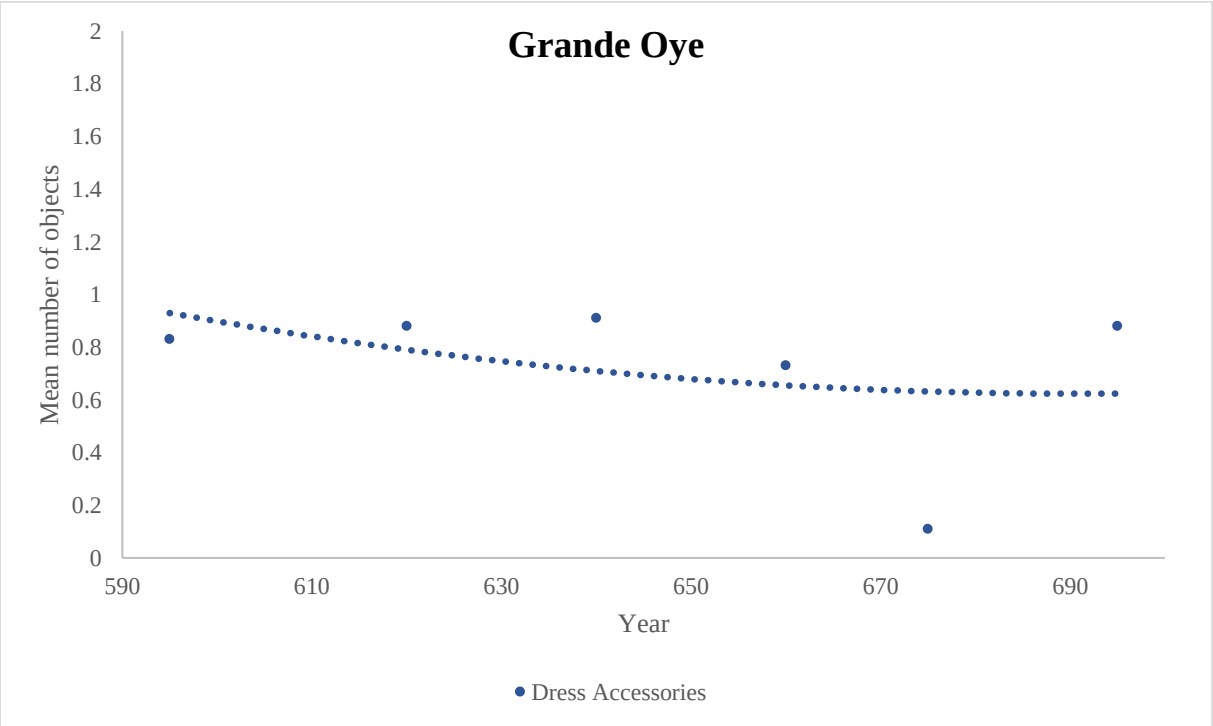

Figure 156: Statistically significant changes in different types of object at Grande Oye. Polynomial trendline order 2

	Dress Accessories
R_s-value	*-0.182*
P-value	*0.037*

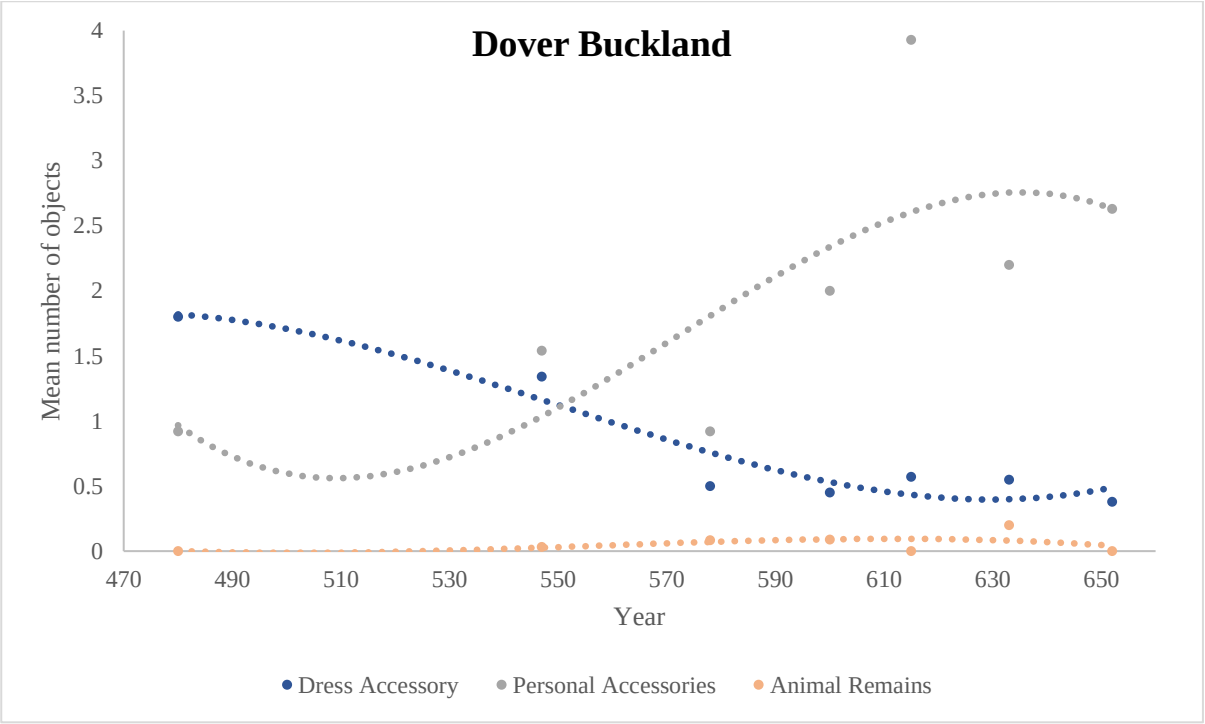

Figure 157: Statistically significant changes in different types of object at Dover Buckland. Polynomial trendlines order 3

	Dress Accessories	*Personal Accessories*	*Animal Remains*
R_s-value	*-0.425*	*0.314*	*0.178*
P-value	*<0.0005*	*<0.0005*	*0.032*

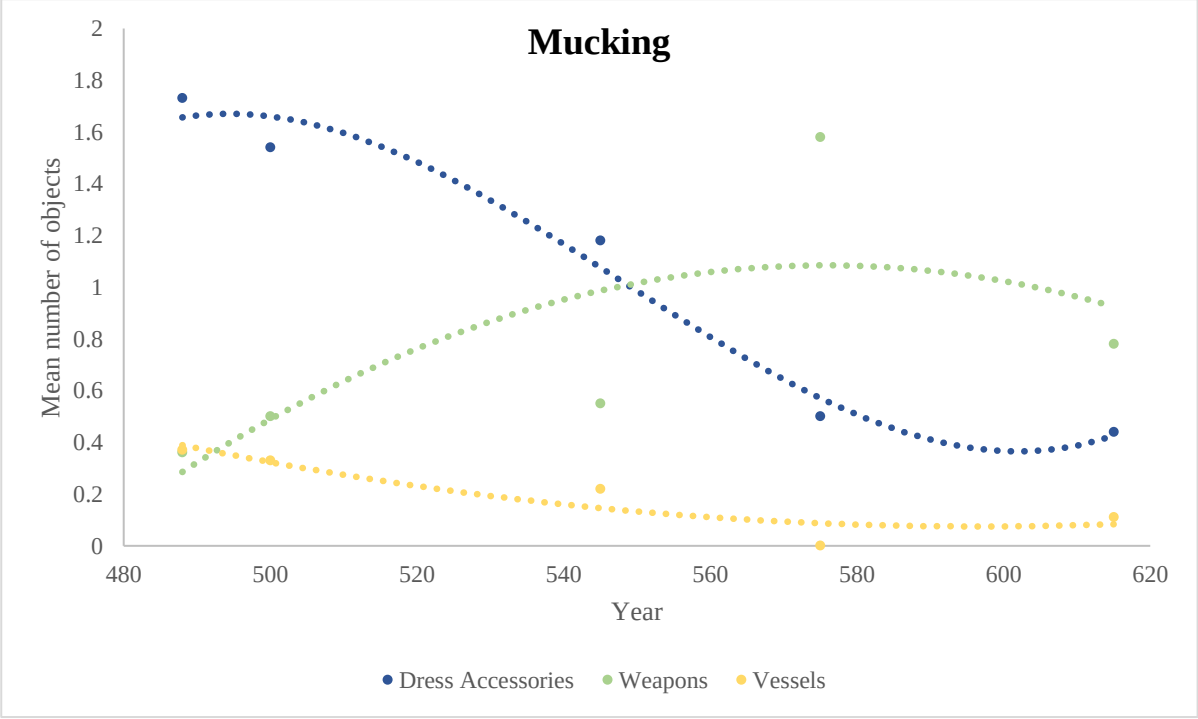

Figure 158: Statistically significant changes in different types of object at Mucking. Polynomial trendlines order 2 and 3

	Dress Accessories	*Weapons*	*Vessels*
R_s-value	*-0.376*	*0.295*	*-0.229*
P-value	*<0.0005*	*<0.0005*	*<0.0005*

4.2.3. Summary

4.2.3.1. Local cemeteries in their regional context

In most instances, the individual cemeteries showed very similar patterns of change to the region in which they were located, with some minor variations in the types of grave goods. The patterns at Rödingen, Cutry, Buckland, Mucking, and Altenerding all largely matched the overall trends seen in their regions as a whole (see summary boxes below). That this was the case at Mucking is somewhat surprising given that the cemetery there went out of use around 40 years before the end of furnished burial. Given the problems caused by the long-lived nature of the Lower Rhine cemeteries, Rödingen is particularly important for helping to understand the region as a whole. The moderate decline in grave good use at Rödingen from the second half of the sixth century onwards suggests that the slight changes seen in the region as a whole were indeed stronger in reality, and that within the cemeteries of the Lower Rhine, as in most other parts of Europe, there was a decrease in the use of grave goods; it was simply less visible in the regional analysis.

At Dover Buckland, there were some small changes in the different types of grave goods used, which indicate that there were some alterations to the funeral rite before the final point of abandonment; a decline in the use of dress accessories and a comparable increase in personal accessories, with a slight increase in the use of animal remains. But on the whole, burial practices within Buckland, and within Kent as a whole were conservative. It is important to note that in most cases, this method does not tell us about the proportions of unfurnished graves relative to furnished graves; it only tells us about changes within the furnished graves themselves. Therefore, a lack of clear decrease does not mean that no change in burial practice occurred; instead it could be that while the majority of graves became completely unfurnished, and therefore undatable, a few continued to be furnished to exactly the same levels as before. However, the fact that Buckland was located within a region where there was very little change in grave good use suggests that the static use of grave goods within the cemetery was a real trend, and not a product of the increased polarisation of wealth. In comparison to other parts of early medieval Europe, Kent stands out as a region of almost entirely static practice at every level.

Of the cemeteries studied above, three showed marked differentiation from the trends seen at a regional level; the use of grave goods at Edix Hill, Grande Oye, and Bulles all changed differently to the patterns evident within their wider regions. The former two all had consistent levels of furnishing in their graves, in contrast to regional decreases, while the latter showed considerably stronger decreases than those noted in the rest of West Frankia.

East Anglia was one of the regions with the strongest trend towards decreasing grave goods. It was unusual, therefore, that within the cemetery of Edix Hill, there was so little change over time. Polarisation of wealth may be a more realistic explanation of why there was no apparent change in this case, as there were very few dated graves from the end of the cemetery's use. However, this could also represent a decrease in the population using the site. Without further dating of unfurnished burials, distinguishing between these two explanations would be impossible. The lack of a clear trend could also be a product of the unusually small number of graves which could be dated. Although Hines and Bayliss' sample was useful in terms of dating a cemetery overall, it was considerably less useful for dating large numbers of individual graves within cemeteries. The large span of their phases was also a problem here. While they may be less prone to inaccuracies than the shorter phases favoured in continental chronologies, they also require far more graves to be able to give an accurate picture of change over time. Edix Hill may therefore not be a true anomaly, but appear different because of methodological difficulties.

Grave good use at Grande Oye also remained relatively static, despite the region as a whole showing a decrease. There were large numbers of graves dated to the last phases of use, suggesting that there was not a majority of 'invisible' unfurnished burial, and as at Buckland, the trends represented a real, consistent use of grave goods over time. It was also a somewhat atypical cemetery for the region, being generally shorter lived, and more poorly furnished than the rest of the cemeteries in Burgundy.

It was unusual to see such strong trends for change within Bulles, when West Frankia overall was such a static area. Bulles was located in the middle of the region, so this cannot be explained as a marginal phenomenon, perhaps being influenced by changes in other areas. Bulles does, however, have one of the largest ranges, and highest mean values of grave goods for all of West Frankia, so was already an anomalous cemetery. While neither Grande Oye nor Bulles were typical sites, they do suggest a level of flexibility in the abilities of individual communities to choose their own forms of burial, including resistance to contemporary changes taking place at nearby sites in the case of Grande Oye, or conversely conforming to broader patterns of change in contrast to the relative conservatism of its surrounding area in the case of Bulles.

When it came to how different categories of objects changed, there were more differences between changes at the regional level, and changes within an individual cemetery, and it was very common to see decreases in objects within a cemetery which did not occur in the region as a whole, or changes within the region as a whole that, did not occur within an individual

cemetery (see summary boxes below). This was most common with some of the rarer objects. For dress accessories, the changes taking place within individual cemeteries usually mirrored the trends at a regional level. Dress accessories were important objects for maintaining regional identities. This means that their use had less scope to be renegotiated on the local scale, and so it is unsurprising that they tended to follow regional trends, and were placed in graves with decreasing frequency over time. However, it was also marked that the trends seen in personal accessories and jewellery in particular, rarely matched regional trends, either remaining commonly used where as a whole they declined, or declining where as a whole they were commonly used. Only in the case of Pleidelsheim, Mucking, and Rödingen were they the same, static in the case of the former two, decreasing in the case of the latter. This was unexpected as at a regional level, personal accessories were one of the few object categories which remained consistently used across all regions of Europe, and I suggested in chapter 3 that personal accessories may have had a common significance which transcended regional boundaries, because of their links to the body. This further analysis suggests that there was some scope for declining use of personal accessories, even if they did remain common in comparison to other artefact types.

4.2.3.2. Date of Decline

Putting an exact date on the start of the decline of grave good use within furnished cemeteries is difficult. Nevertheless, the start of the decline in individual cemeteries was visible much earlier than at the larger scales, due to the more precise dating methods used. Again, there was no sign of a linear spread from one area to another. The earliest cemeteries to begin to stop using grave goods were in Eastern Frankia and Bavaria, but Pleidelsheim, lying between the two in Alamannia, was the latest where the decline was visible. Fig. 159 shows the phase of each cemetery when the decline began. The exact dates varied, but the start of the decline in most instances began roughly in the mid sixth century, and only at Pleidelsheim and Rödingen was it delayed until the late sixth century. Certainly this change was in process for over a century before grave goods, and the cemeteries in which such deposition occurred, were completely abandoned.

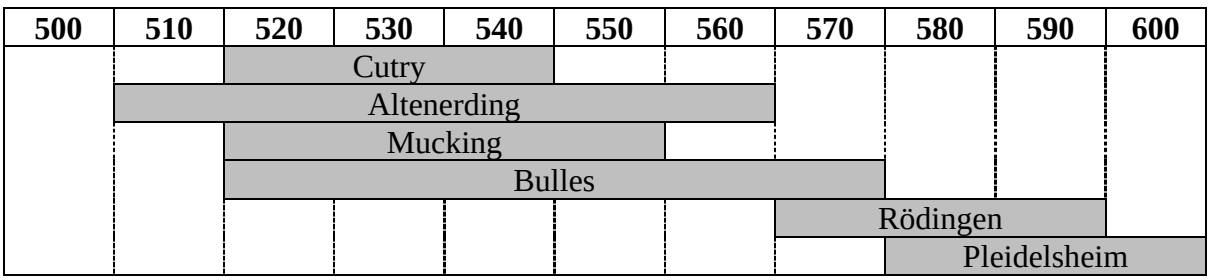

Figure 159: The potential date range in which the deposition of objects in graves began to decline, excluding cemeteries where no decline was visible

When looking at the largest scale, changes in the levels of grave goods were visible in England in the mid sixth century, although they were not visible on the continent until the late seventh century at very low resolution. My examination of individual cemeteries however has shown that for many of the continental cemeteries, the decline also began in the mid sixth century. This suggests that the earliest changes on the continent also began then, though some areas did not start changing their grave good use until later. The mid sixth century was clearly an important turning point, the exact significance of which will be discussed further in the next chapter.

4.2.3.3. Summary of Regional versus Cemetery Trends

- Cemeteries reflecting broader regional trends

Northern Alamannia	**Pleidelsheim**
• Furnished cemeteries abandoned by the early eighth century • Later cemeteries more likely to be poorly furnished • Decreasing use of almost all object types	• Steady decrease in grave good use from the end of the sixth century • Decreasing use of all common object types

Bavaria	**Altenerding**
• Furnished cemeteries abandoned by the early eighth century • Variable levels of furnishing between cemeteries, but no tendency towards poorly furnished burial later • Dress accessories the only object type to decrease	• Sudden decrease in grave good use in the mid sixth century • Decrease in the use of dress accessories, jewellery, personal accessories, and tools

Lower Rhine	**Rödingen**
• Furnished cemeteries have gone out of use by the mid eighth century • Slight tendency towards lower grave good deposition in later cemeteries • Decreases in most object types, except jewellery	• Steady decrease in grave good use from the late sixth century onwards • Decrease in the use of personal accessories, cosmetics, vessels and tools, but an increase in the use of dress accessories

Eastern Frankia	Cutry
• Most furnished cemeteries went out of use at the end of the seventh century • Later cemeteries more likely to be poorly furnished • Decreases in dress accessories, vessels, weapons and animal remains	• Sudden decrease in grave good use in the early sixth century • Decreases in dress accessories, jewellery, personal accessories and coins
Kent	**Dover Buckland**
• Most furnished cemeteries went out of use around 685 • Variable levels of furnishing between cemeteries, but no tendency towards poorly furnished burial later • Decreases in the use of dress accessories, jewellery and amulets, but an increase in the use of vessels	• No tendency towards poorly furnished burial later • Decreases in the use of dress accessories, but increase in the use of personal accessories and animal remains
Saxon areas	**Mucking**
• Furnished cemeteries all went out of use by 685 • Later cemeteries more likely to be poorly furnished • Decreases in all object categories except coins and personal accessories	• Sudden decrease in grave good use after the mid sixth century • Decreases in dress accessories and vessels, increases in jewellery and weapons

- *Cemeteries which differed from regional trends*

East Anglia	**Edix Hill**
• Furnished cemeteries all went out of by the end of the seventh century • Later cemeteries more likely to be poorly furnished • Decreases in all common object categories.	• No tendency towards poorly furnished burial later • Increase in the use of tools in graves

Burgundy	**Grande Oye**
• No clear break in cemetery use in Burgundy • Later cemeteries more likely to be poorly furnished, despite initial low levels of grave good use • Decreases in all object categories except the rarest.	• No tendency towards poorly furnished burial later. • Decrease in dress accessories

West Frankia	**Bulles**
• Furnished cemeteries abandoned by the late seventh and early eighth century • Cemeteries consistently furnished across the seventh and eighth centuries • Only decrease was in the use of fittings; personal accessories and vessels became more commonly used over time.	• Steady decrease in grave good use from the mid sixth century to negligible levels • Decreases in all the common types of object

4.3. Gender

4.3.1. Changing Number of Grave Goods

In almost all instances where there was a decrease in the use of grave goods within a cemetery, this decrease occurred primarily in the graves of one gender, while another saw more consistent grave good deposition. Which gender, however, varied between sites. As with overall numbers, it is important to note that this is not a reflection of overall change, but only change within those furnished graves which could be dated.

In the cemeteries of Mucking (fig. 160) and Altenerding (fig. 161), change occurred in the masculine graves, while the feminine graves remained consistently furnished. At Mucking, the decrease in masculine grave good provision was a steady decline over the entirety of the cemetery's use, while at Altenerding, the change occurred suddenly in the mid sixth century, in the same way as overall numbers did. This is in keeping with existing research that showed a sharp decrease in the number of male furnished graves, but the continuing use of furnished female burials until the mid seventh century (Hines & Bayliss 2013, 529). In Bavaria, it has been noted that female burial was where distinctions between local cemeteries were displayed, while male burial was more representative of regional identities (Hakenbeck 2011, 143). It therefore makes sense that it was the masculine burials at Altenerding which mirrored the regional trends for decreasing grave good use.

However, in Pleidelsheim (fig. 162), Cutry (fig. 163), Bulles (fig. 164), and Rödingen (fig. 165), the change occurred primarily in the feminine, not the masculine graves. At Pleidelsheim, both masculine and feminine grave good provision increased from the earliest phases, with the peak in feminine furnishing appearing in the mid sixth century, and the peak in masculine furnishing appearing later at the start of the seventh century. Following this, there was no statistically significant change in masculine burials, but in the feminine burials there was a strong, significant fall in the number of objects deposited, to as low as one object per grave in the last phase of the seventh century. At both Bulles and at Cutry, the decrease in feminine graves took place in two phases, during the fifth and the seventh century. The change at Rödingen occurred primarily from 590 onwards, with a period of stasis in the middle.

At Grande Oye (fig. 166) and Edix Hill (fig. 167), both cemeteries where there was no overall changes in grave good use, there was also no change in either the masculine or the feminine assemblages. At both sites, masculine grave good provision was more consistent, while the number of objects used in feminine graves was far more variable, from one to three objects at

Grande Oye, and between three and nine objects at Edix Hill. This variation had no clear chronological trend to it, however.

Despite being an otherwise static site, Dover Buckland (fig. 168) was the only cemetery where furnishing increased over time in feminine graves. The masculine graves were consistently furnished, with 3.5 to 5.5 objects per grave. The feminine assemblages, on the other hand increased from an average of 4.5 objects per grave in the late fifth century, to an average of 8.7 objects per grave in the early seventh century.

Cemeteries with Declining Masculine Grave Good Use

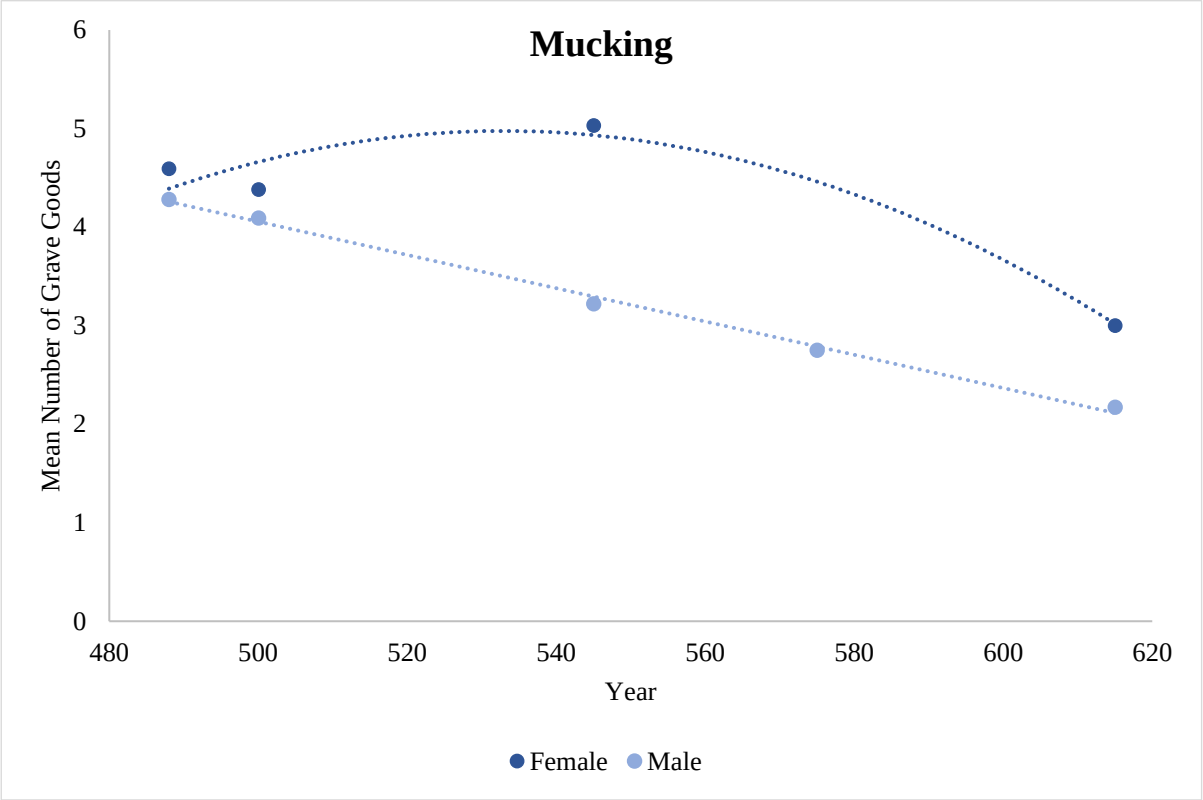

Figure 160: The average number of objects in feminine and masculine graves at Mucking. Linear trendline for masculine graves, r_s=-0.369, p=0.002. Polynomial trendline order 2 for feminine graves, r_s=0.065, p=0.562

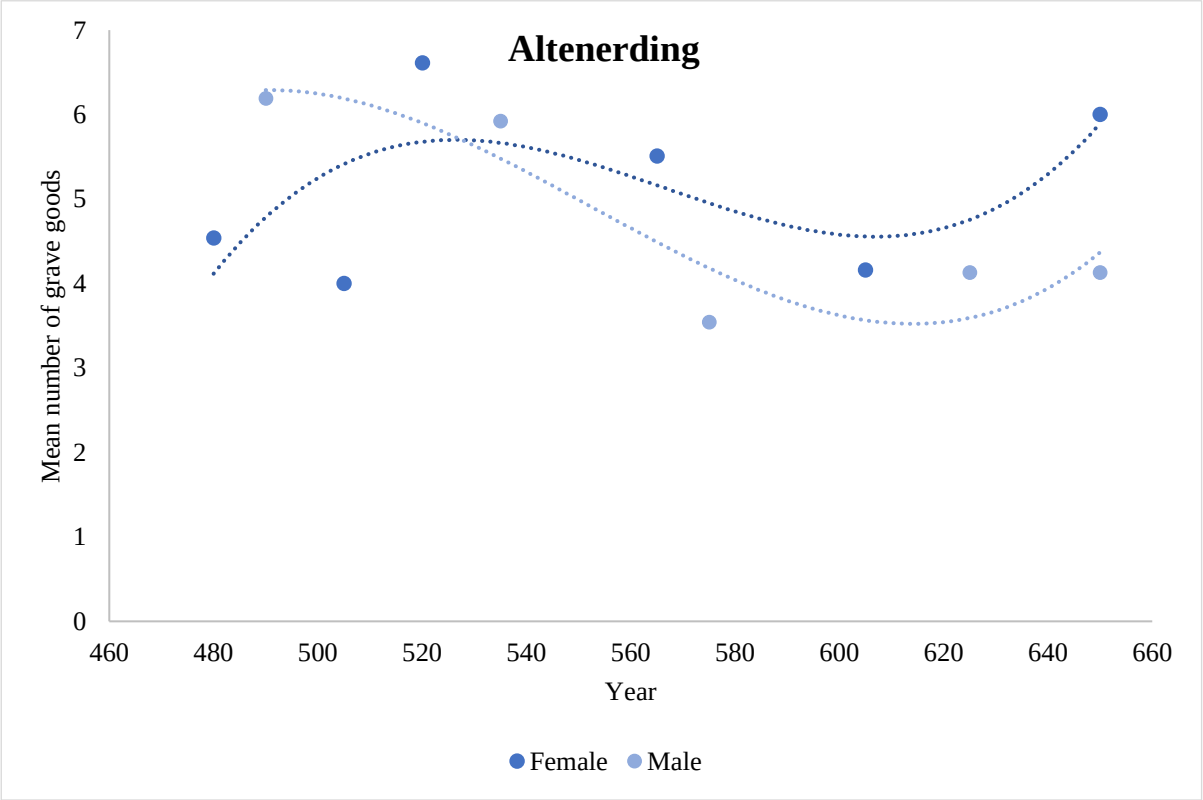

Figure 161: The average number of objects in feminine and masculine graves at Altenerding. Polynomial trendlines, order 3. For feminine graves, r_s=-0.162, p=0.086. For masculine graves r_s=-0.147, p=0.035

Cemeteries with Declining Feminine Grave Good Use

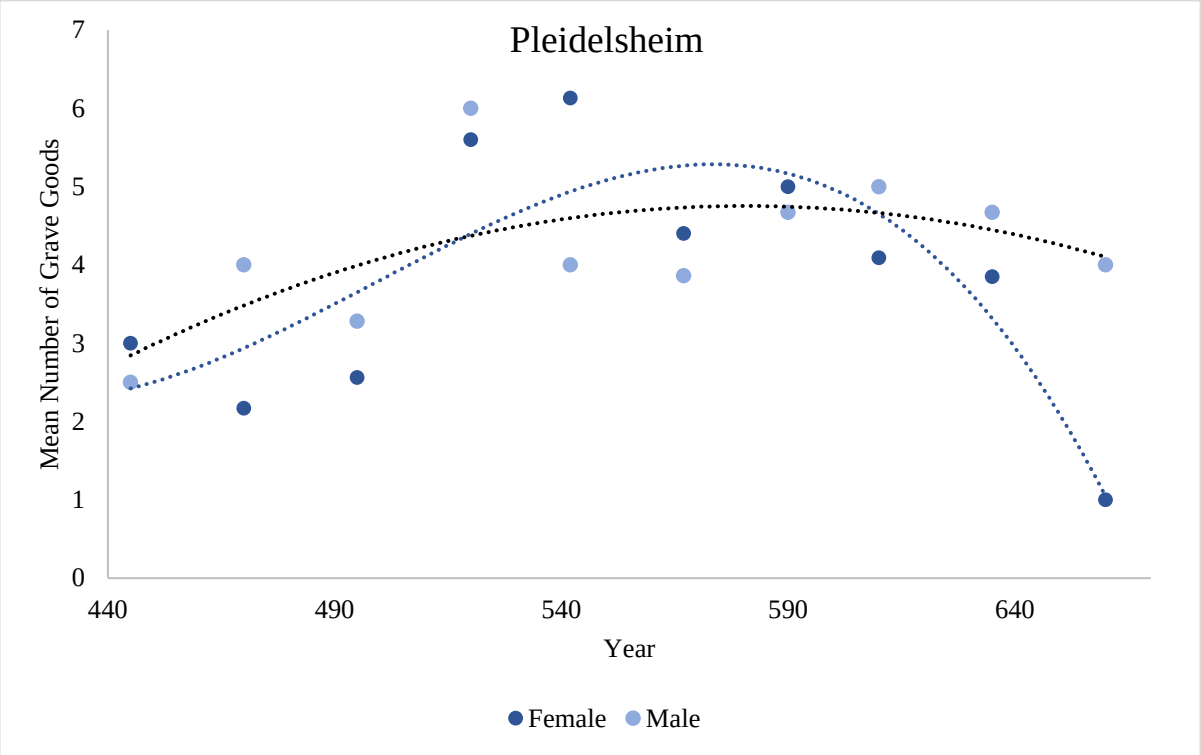

Figure 162: The average number of objects in feminine and masculine graves at Pleidelsheim. Polynomial trendline order 2 for masculine, 3 for feminine. For masculine trends from 520 onwards, r_s=0.010, p=0.952. For feminine trends from 542 onwards, r_s=-0.485, p=0.001

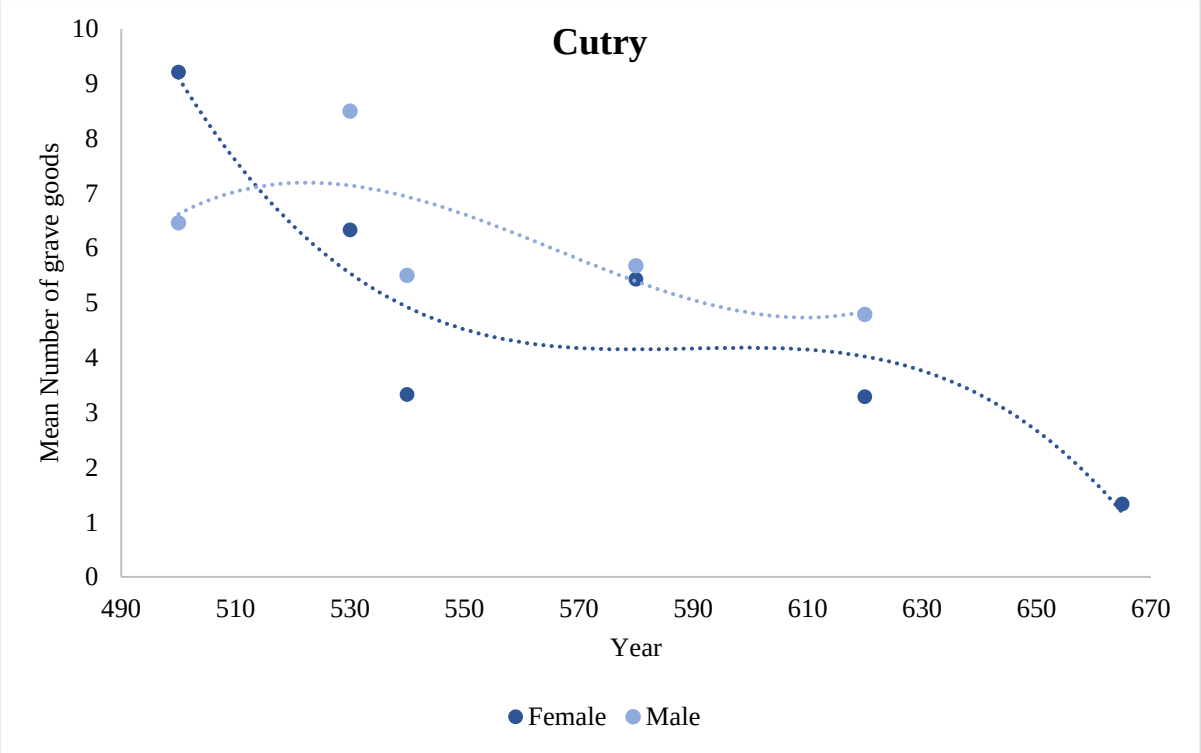

Figure 163: The average number of objects in feminine and masculine graves at Cutry. Polynomial trendlines order 3. For masculine trend, r_s=-0.135, p=0.216. For feminine trends, r_s=-0.293, p=0.026.

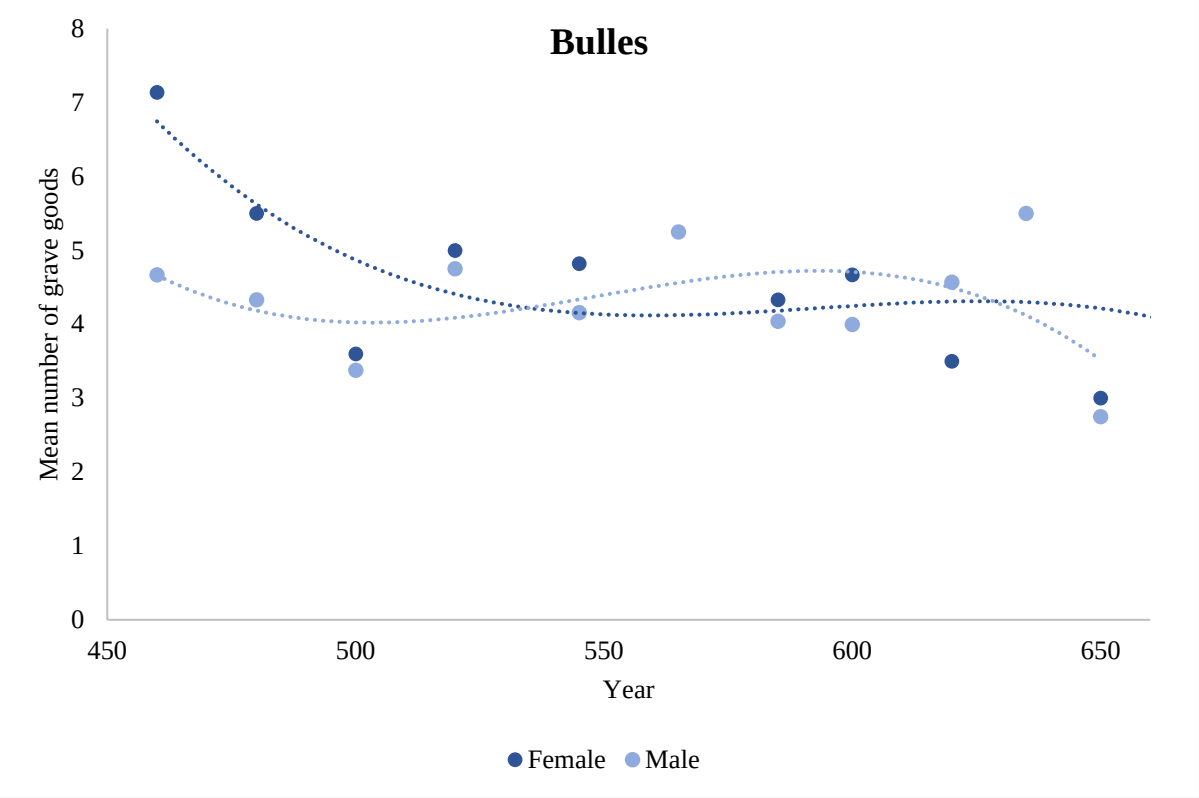

Figure 164: The average number of objects in feminine and masculine graves at Bulles. Polynomial trendlines order 3. For masculine trend, r_s=0.034, p=0.818. For feminine trend, r_s=-0.229, p=0.036.

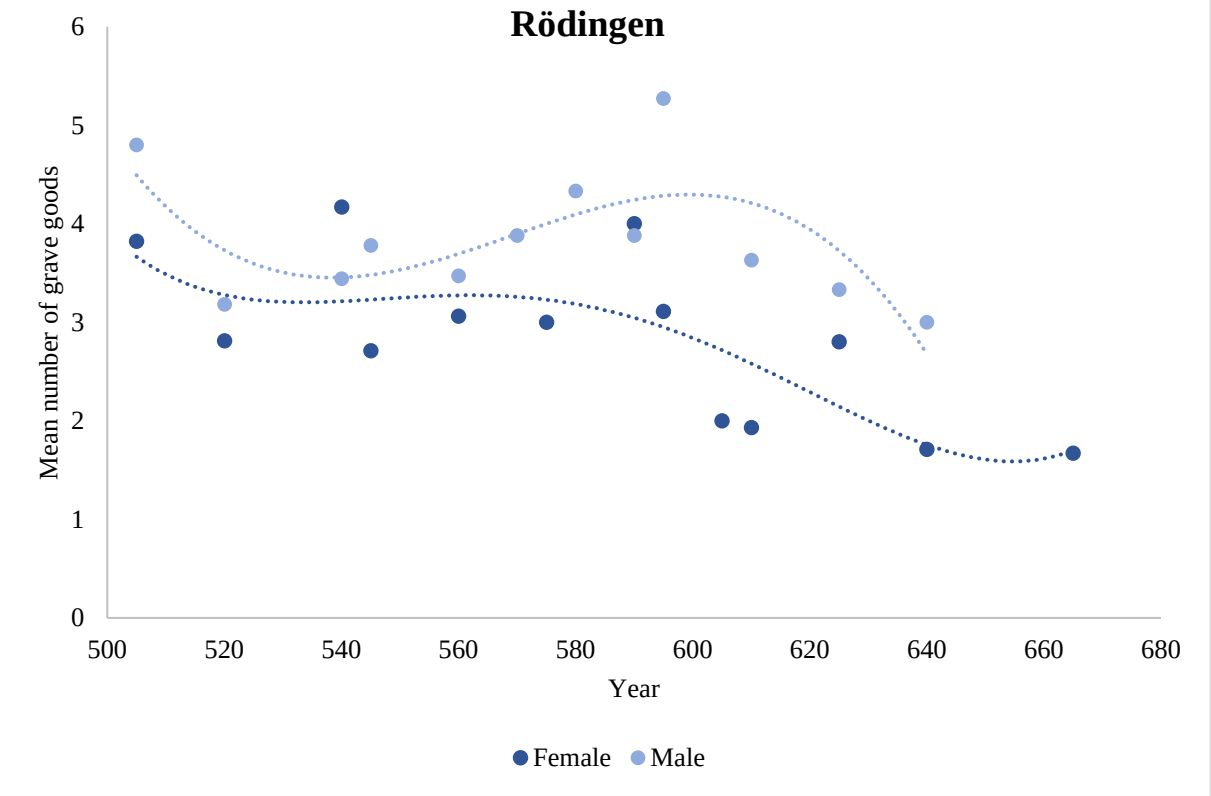

Figure 165: The average number of objects in feminine and masculine graves at Rödingen. Polynomial trendline order 3 for masculine, order 4 for feminine. For masculine trend, r_s=-0.104, p=0.255. For feminine trend from 590 onwards r_s=-0.506, p<0.0005

Cemeteries with No Distinction Between Genders

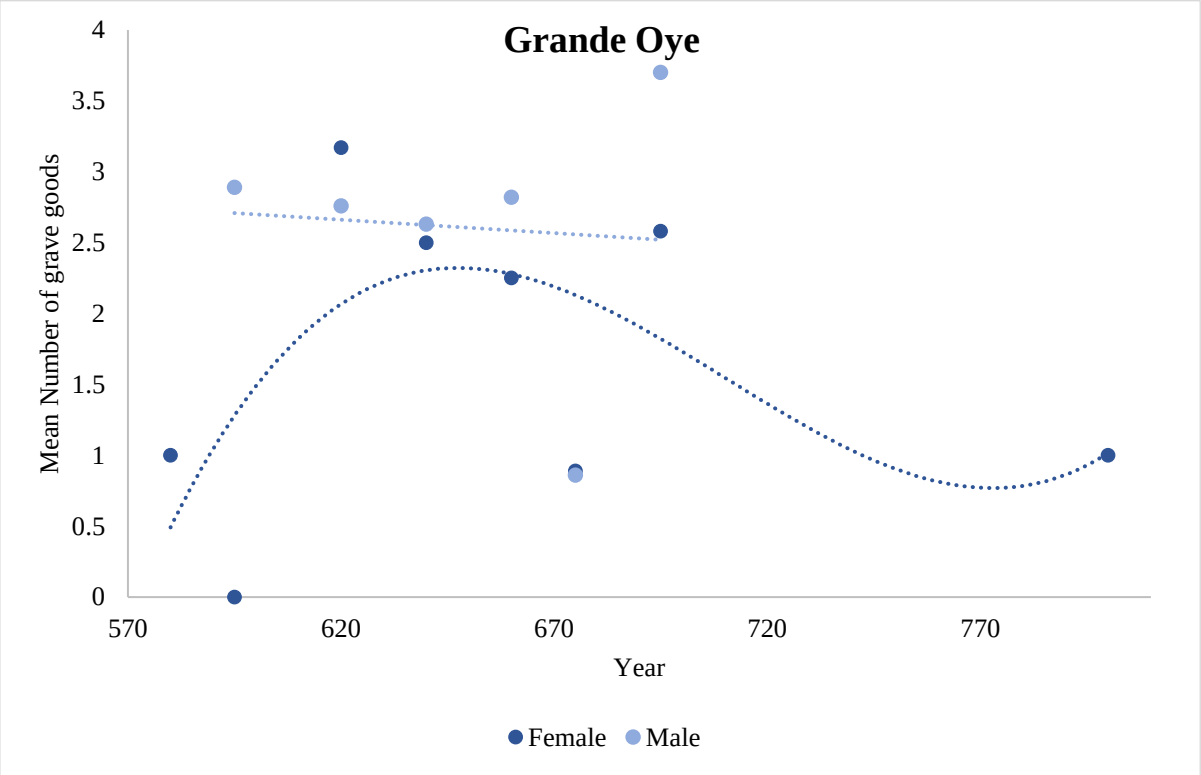

Figure 166: The average number of objects in feminine and masculine graves at Grande Oye. Linear trendline for macsculine graves, polynomial trendline order 3 for feminine graves.. For masculine graves, r_s=0.035, p=0.774, for feminine graves, r_s=-0.092, p=0.488

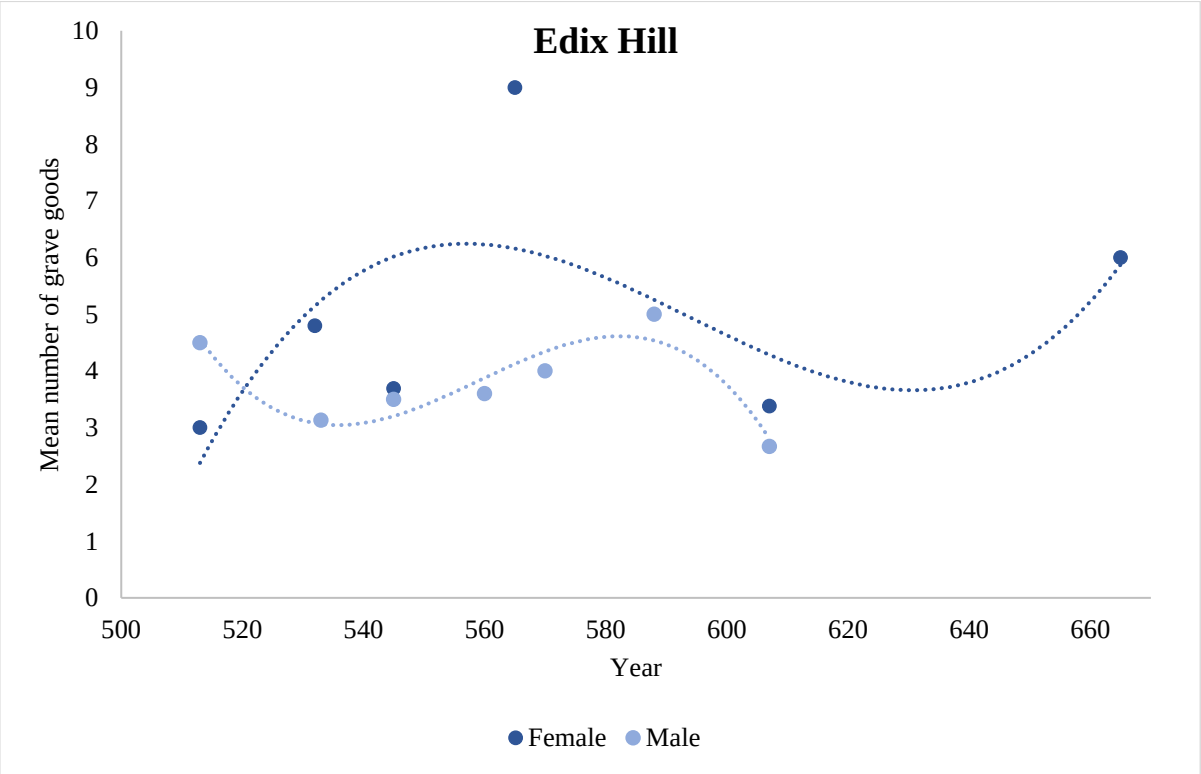

Figure 167: The average number of objects in feminine and masculine graves at Edix Hill. Polynomial trendlines order 3. For masculine trends, r_s=-0.285, p=0.158. For feminine trends, r_s=0.070, p=0.671

Cemeteries with Increasing Grave Good Use

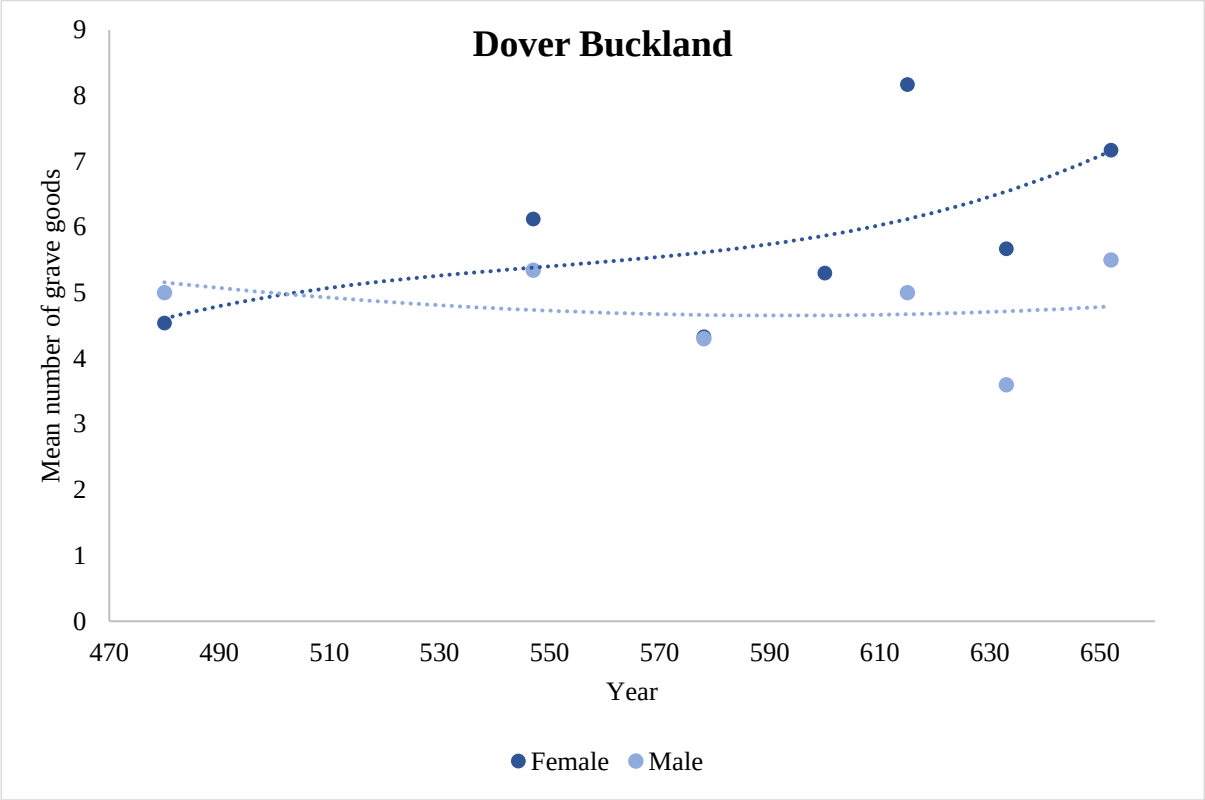

Figure 168: The average number of objects in feminine and masculine graves at Dover Buckland. Polynomial trendline order 2 for masculine graves, polynomial trendline order 3 for feminine graves. For masculine graves, r_s=-0.154, p=0.252. For feminine graves, r_s=0.249, p=0.005.

4.3.2. Types of Grave Goods

It also tended to be the case that only one gender at a site saw any changes in the different types of objects used in the graves. Thus at Pleidelsheim (fig. 169) and Bulles (fig. 178), decreases in the different types of objects being used primarily occurred in the feminine graves, and at Mucking (fig, 171), most changes occurred in the masculine graves. There were a few exceptions to this; the use of coins declined in the masculine graves at Bulles, and at Mucking, dress accessories declined in feminine graves, while jewellery became more commonly deposited (fig. 172). The only change to masculine assemblages at Pleidelsheim was a decrease in the use of jewellery within them (fig. 170).

At some sites, however, there were very few changes in either of the gendered assemblages, despite there having been a change in overall numbers. At Altenerding, the only statistically significant changes in masculine grave goods were an increase in the use of weapons and animal remains, and a decrease in the use of tools, despite most of the overall decrease being visible in masculine graves (fig. 174). As at Mucking, there were also changes in the types of objects used in feminine graves, a strong decrease in dress accessories, and a slight increase in the use of jewellery (fig. 173). At Cutry, too, only two changes were visible; dress accessories showed a strong decrease in feminine assemblages, while personal accessories became less commonly placed in masculine assemblages.

Only at Rödingen were there multiple changes in both the masculine and feminine assemblages, despite the majority of change at the overall level being driven by feminine graves (fig. 175, fig. 176). Personal accessories and vessels decreased in both masculine and feminine graves, and jewellery and tools also decreased in feminine graves. The real difference came in the use of dress accessories, which decreased in feminine graves, but in fact increased in masculine graves, as it did on an overall level.

The only change at Edix Hill was a decrease in the number of weapons deposited in masculine graves (fig. 177). Dover Buckland also had very few gendered changes. Feminine assemblages showed a strong decrease in dress accessories, matched by an equally strong increase in personal accessories (fig. 179). The masculine burials were again very static over time, with the only change visible being an increase in animal remains. Given that this was one of the rarest categories of object in the cemetery, though, it is difficult to read too much significance into this. The only statistically significant change at Grande Oye was a decrease of weapons in feminine graves (fig. 180), the significance of which will be discussed below.

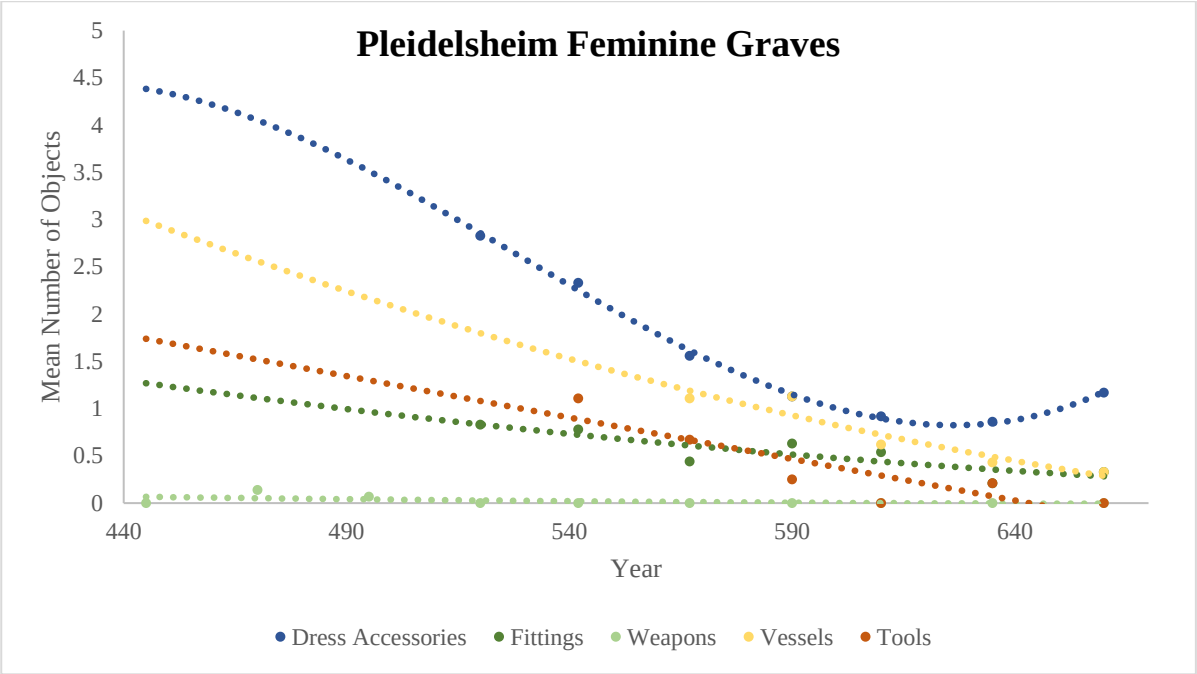

Figure 169: Statistically significant changes in object types in feminine graves at Pleidelsheim

	Dress Accessories	*Fittings*	*Weapons*	*Vessels*	*Tools*
R_s-value	*-0.576*	*-0.456*	*-0.253*	*-0.372*	*-0.406*
P-value	*<0.0005*	*0.001*	*0.048*	*0.043*	*0.007*
Date	*530*	*510*	*460*	*580*	*530*

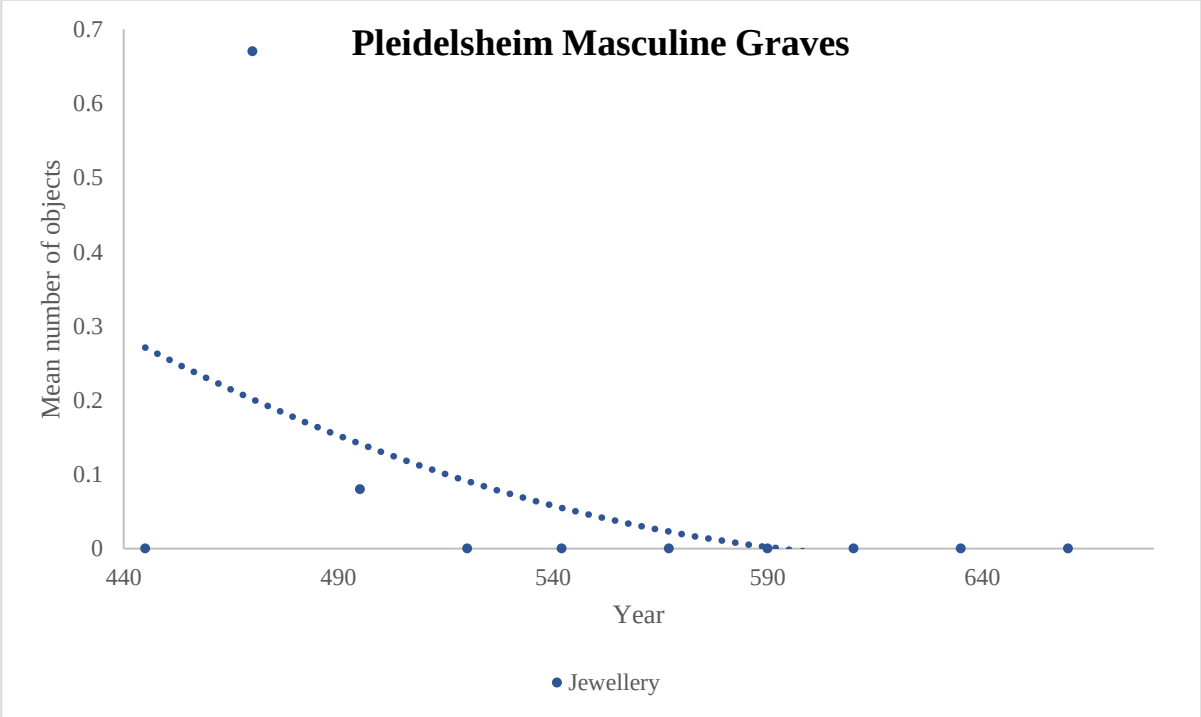

Figure 170: Statistically significant changes in object types in masculine graves at Pleidelsheim

	Pleidelsheim
R_s-value	*-0.321*
P-value	*0.029*
Date	*460*

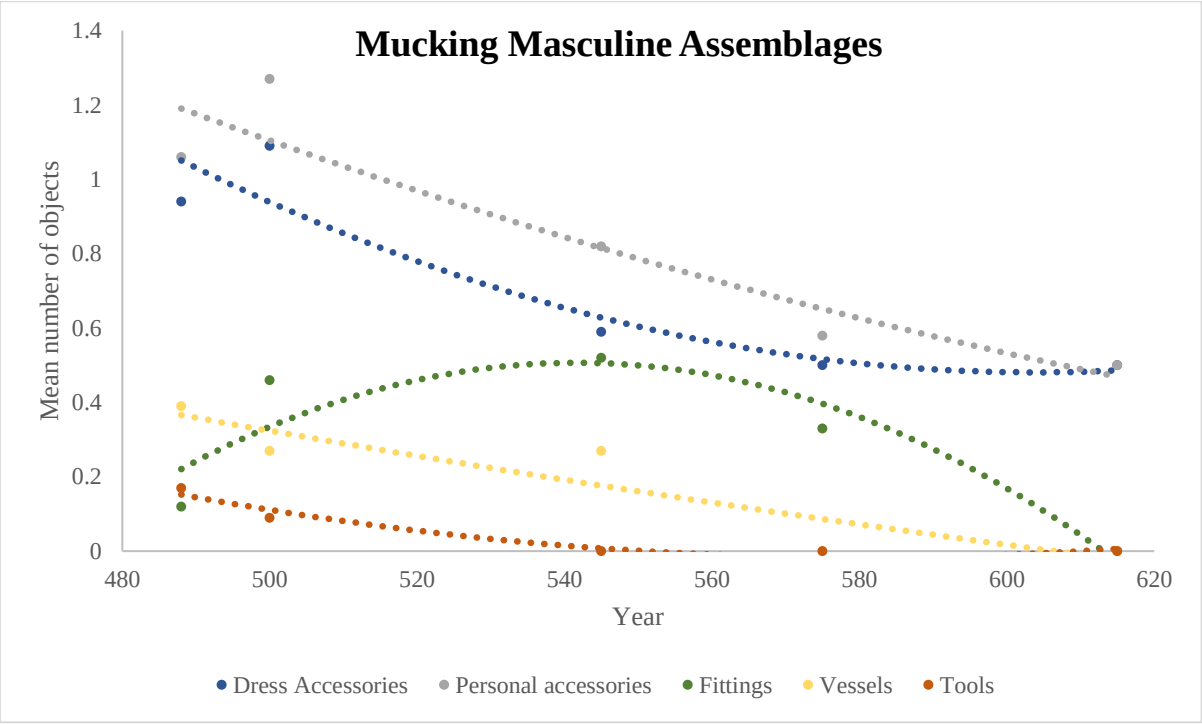

Figure 171: Statistically significant changes in masculine assemblages at Mucking

	Dress Accessories	*Personal Accessories*	*Fittings*	*Vessels*	*Tools*
R_s-value	*-0.284*	*-0.343*	*-0.404*	*-0.272*	*-0.281*
P-value	*0.018*	*0.004*	*0.001*	*0.024*	*0.019*

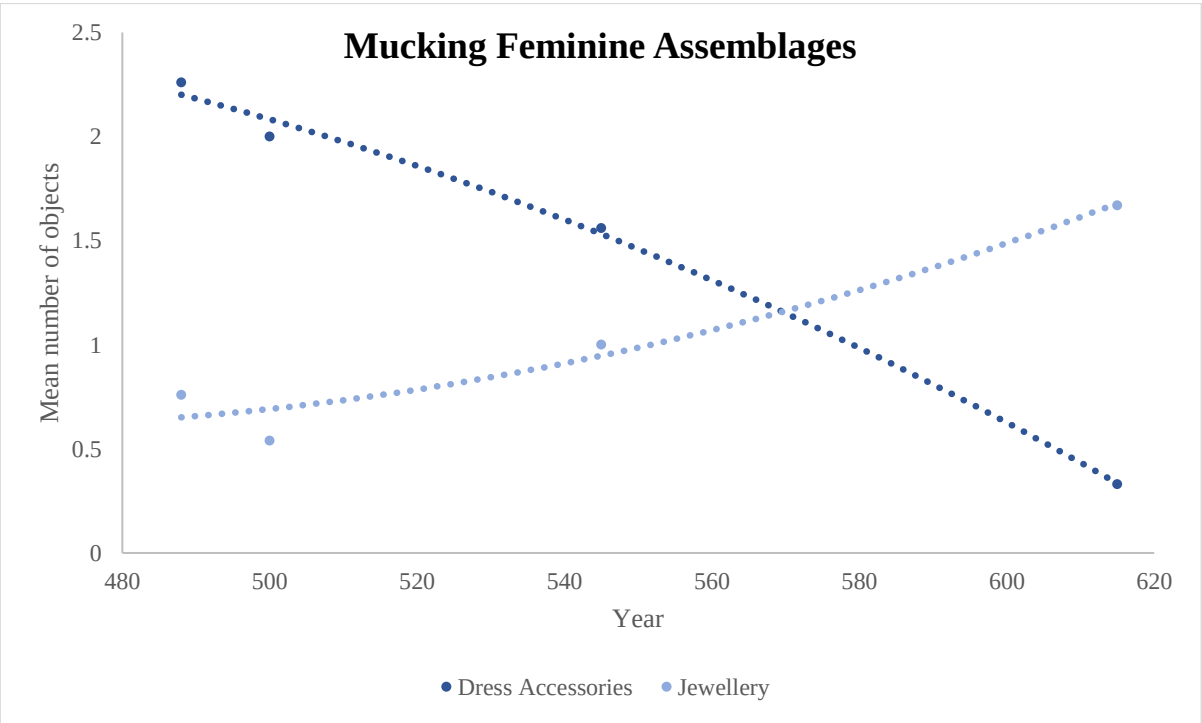

Figure 172: Statistically significant changes in object types in feminine graves at Mucking

	Dress Accessories	*Jewellery*
R_s-value	*-0.350*	*0.219*
P-value	*0.001*	*0.050*

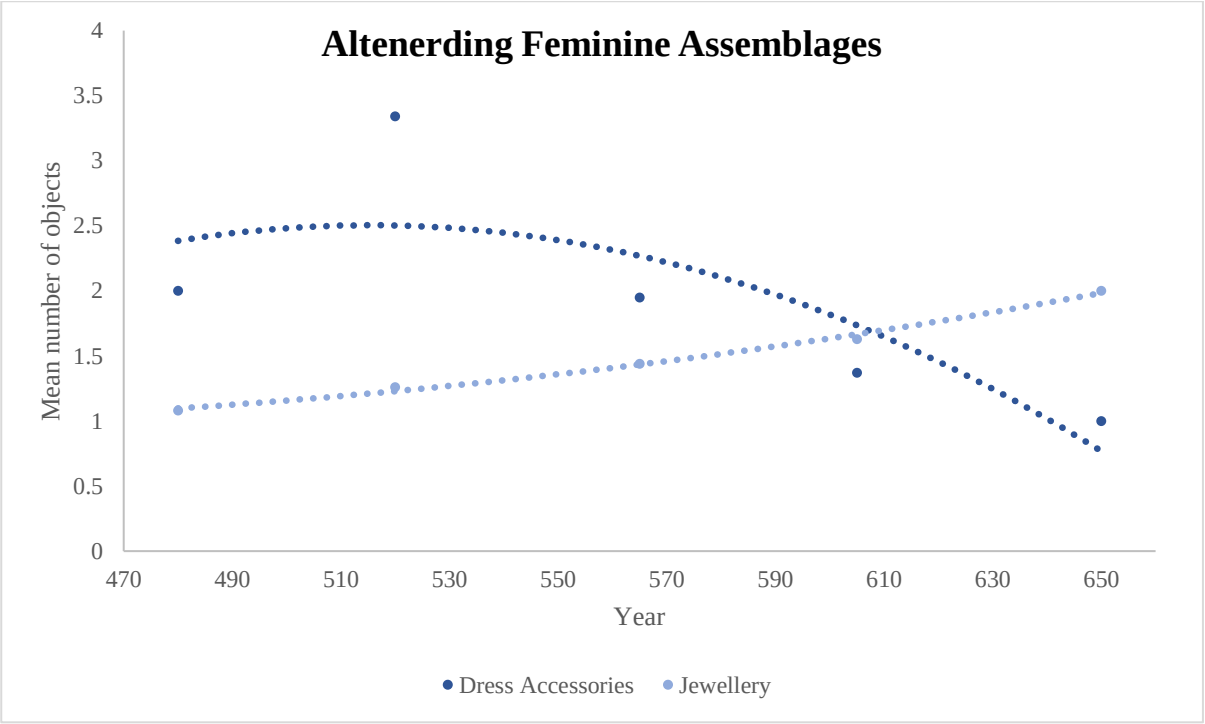

Figure 173: Statistically significant changes in object types in the feminine graves at Altenerding

	Dress Accessories	*Jewellery*
R_s-value	*-0.512*	*0.206*
P-value	*<0.0005*	*0.029*
Date	*520*	*480*

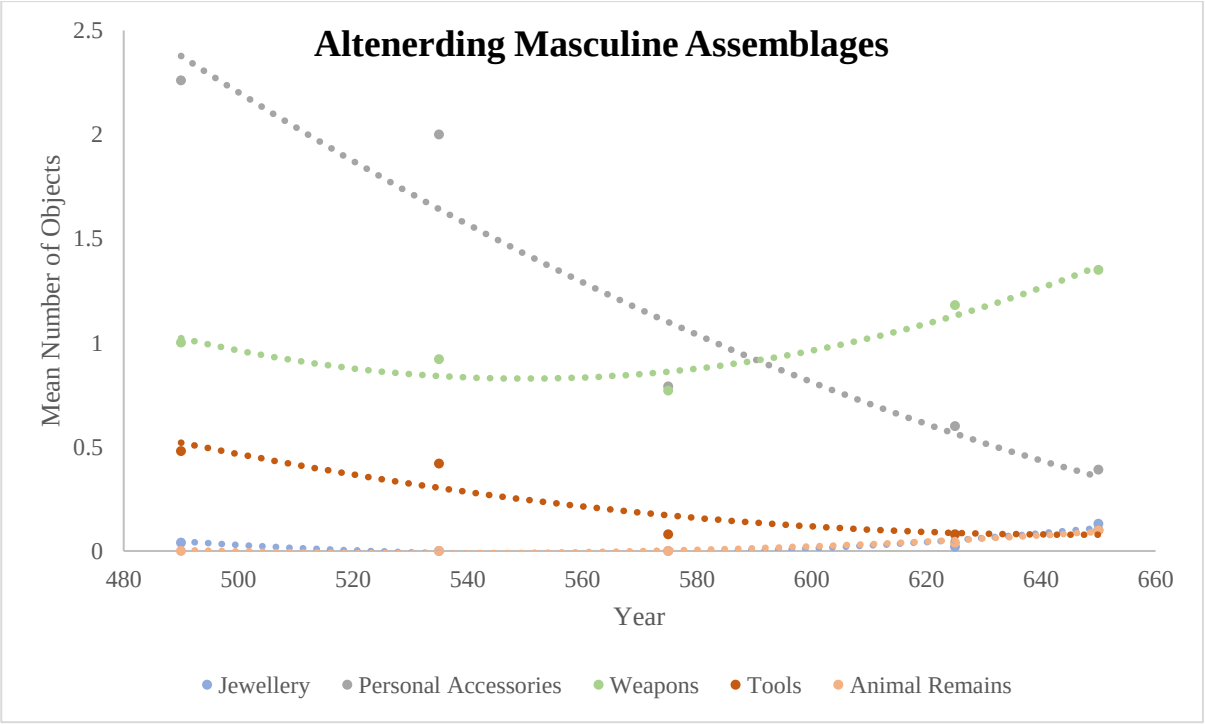

Figure 174: Statistically significant changes in object types in masculine graves at Altenerding

	Jewellery	*Personal Accessories*	*Weapons*	*Tools*	*Animal Remains*
R_s-value	*0.159*	*-0.459*	*0.220*	*-0.215*	*0.202*
P-value	*0.023*	*<0.0005*	*0.002*	*0.002*	*0.004*
Date	*490*	*490*	*490*	*490*	*490*

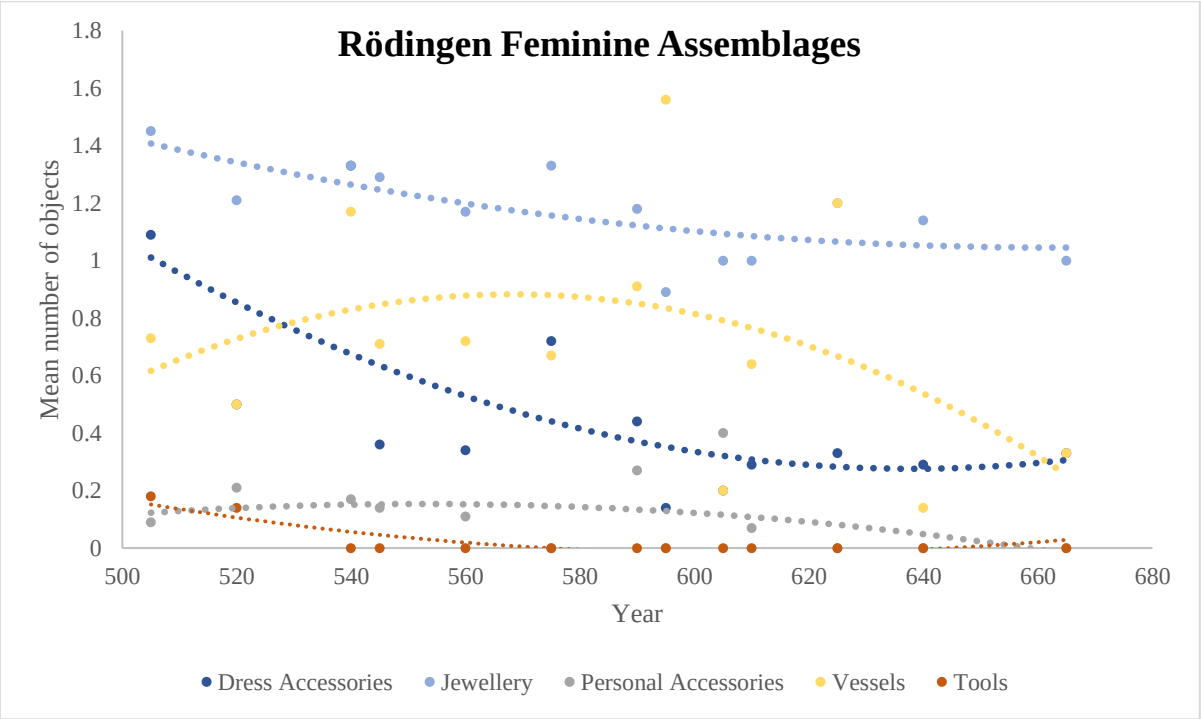

Figure 175: Statistically significant changes in object types in feminine graves at Rödingen

	Dress Accessories	*Jewellery*	*Personal Accessories*	*Vessels*	*Tools*
R_s-value	*-0.251*	*-0.216*	*-0.376*	*-0.369*	*-0.264*
P-value	*0.006*	*0.018*	*0.029*	*0.009*	*0.004*
Date	*505*	*505*	*605*	*595*	*505*

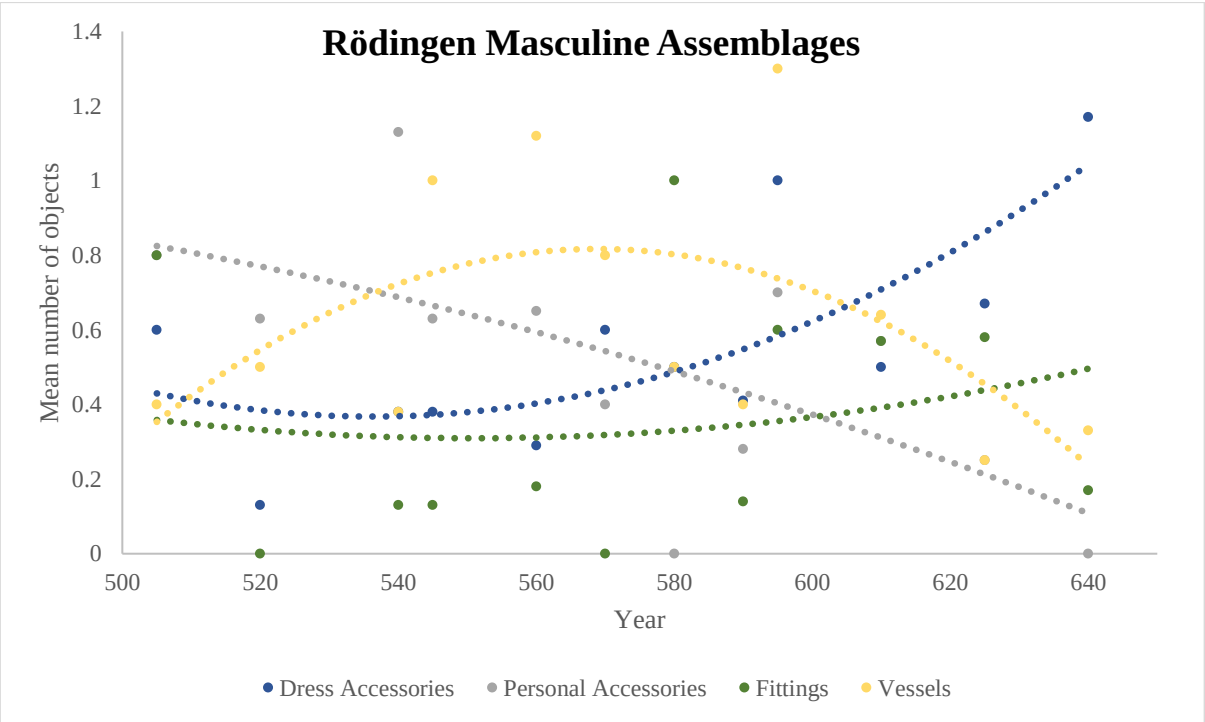

Figure 176: Statistically significant changes in object types in masculine graves at Rödingen

	Dress Accessories	*Personal Accessories*	*Fittings*	*Vessels*
R_s-value	*0.314*	*-0.239*	*0.315*	*-0.366*
P-value	*<0.0005*	*0.013*	*0.001*	*0.001*
Date	*505*	*540*	*520*	*560*

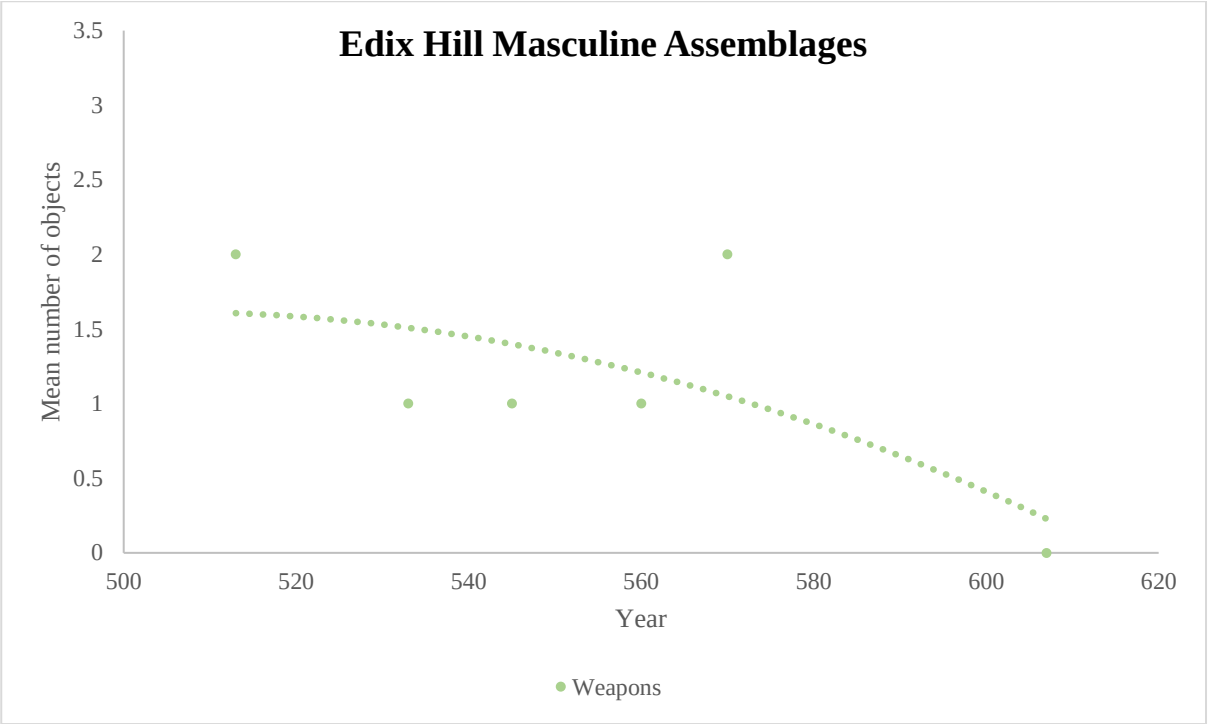

Figure 177: Statistically significant changes in object types in masculine graves at Edix Hill

	Weapons
R_s-value	*-0.456*
P-value	*0.029*
Date	*513*

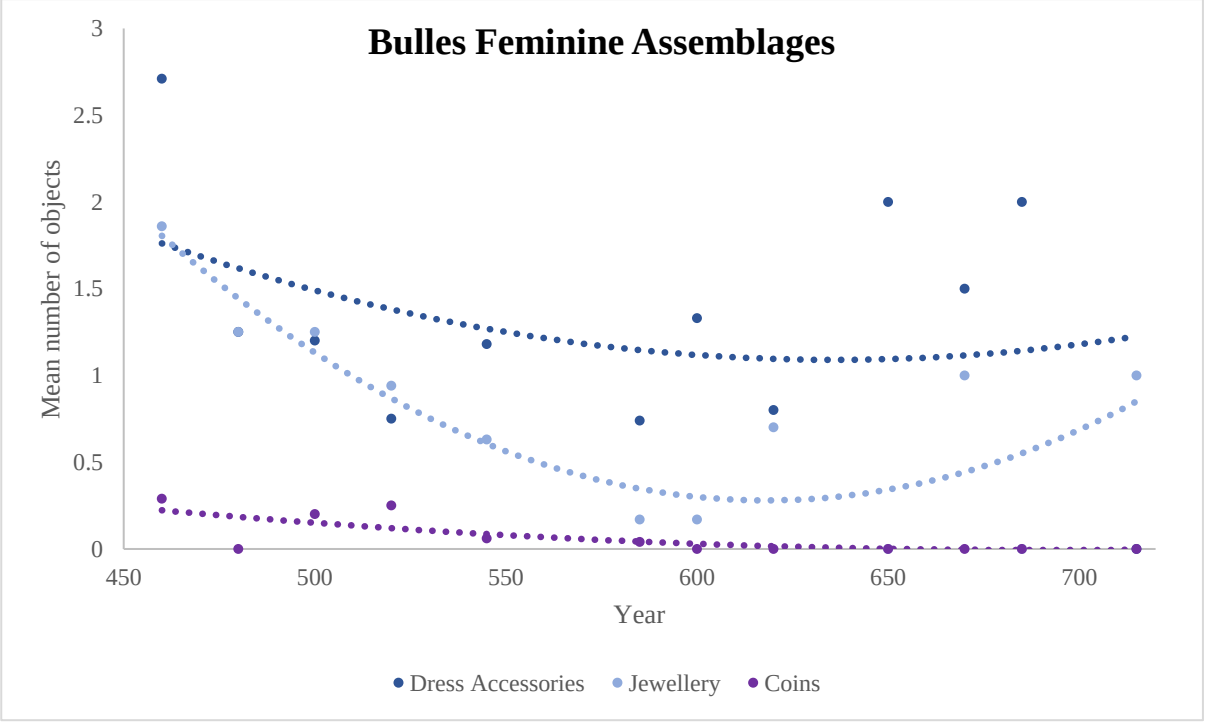

Figure 178: Statistically significant changes in object types in feminine graves at Bulles

	Dress Accessories	*Jewellery*	*Coins*
R_s-value	*-0.214*	*-0.389*	*-0.263*
P-value	*0.051*	*<0.0005*	*0.016*
Date	*460*	*460*	*460*

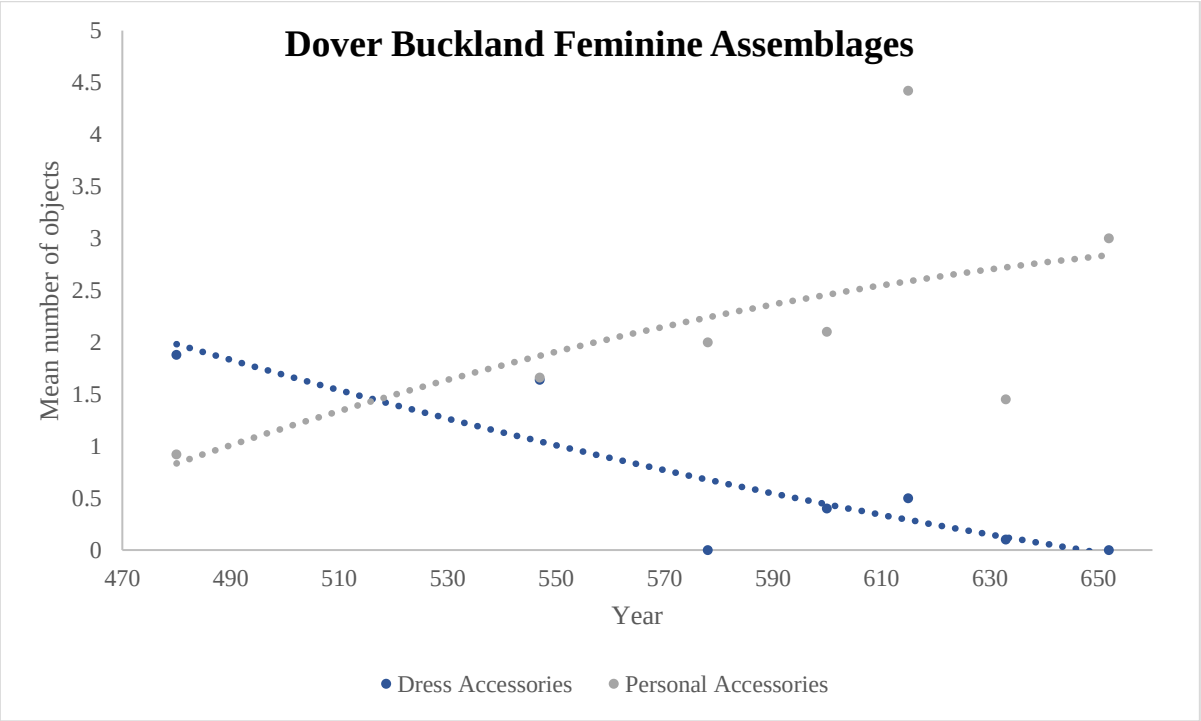

Figure 179: Statistically significant changes in object types in feminine graves at Dover Buckland

	Dress Accessories	*Personal Accessories*
R_s-value	*-0.509*	*0.465*
P-value	*<0.0005*	*<0.0005*

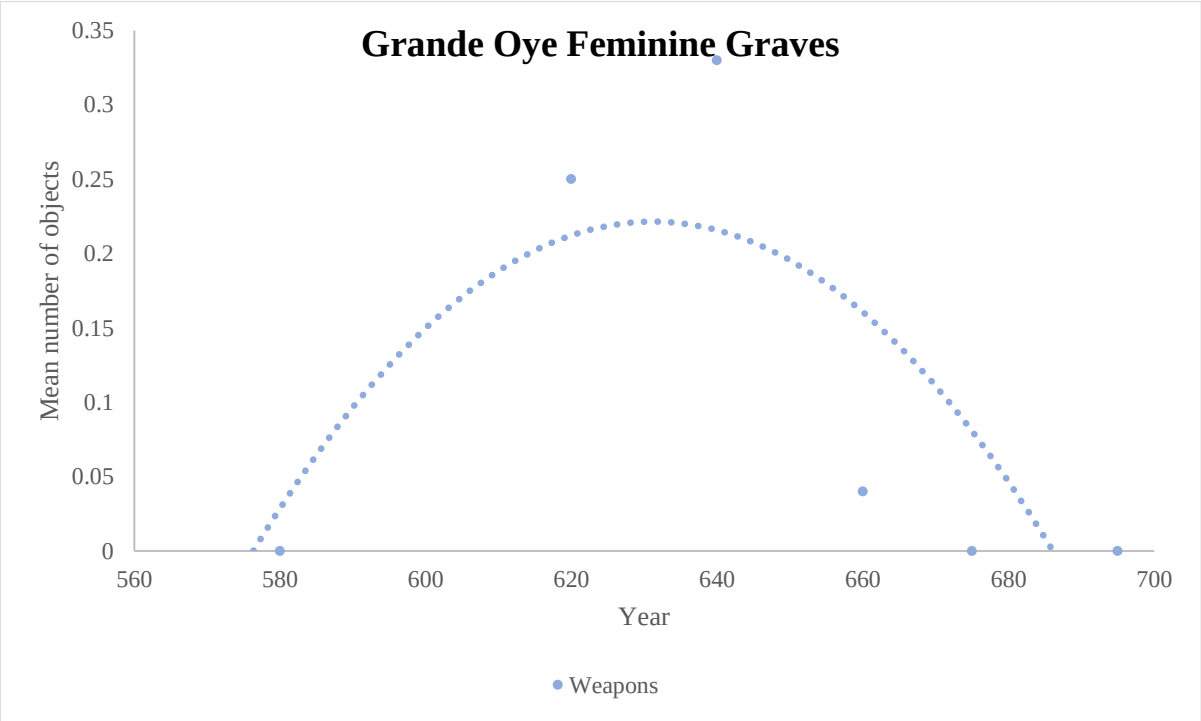

Figure 180: Statistically significant changes in object types in feminine graves at Grande Oye

	Grande Oye
R_s-value	*-0.301*
P-value	*0.027*
Date	

4.3.3. Discussion

The differences noted between the masculine and feminine assemblages in the above cemeteries require some consideration of the different ways in which gender roles functioned in different parts of the early medieval world, and how this may have impacted on changing funerary rites. As discussed above, the changes in grave good use were not the same for masculine and feminine burials, and while I have not had the scope here to explore gender in the same level of detail as many previous studies, this research supports many of their conclusions.

When looking at the way gendered assemblages changed over time in these cemeteries, it is important to remember that, as with overall numbers, it was not the entirety of the male and female assemblages being analysed; in several cases, especially Rödingen, there was limited anthropological information available, and so the analysis had to be carried out purely on the basis of the identifiably gendered grave good assemblages, which might make up only half of all burials (Stoodley 1999, 75). Burials which could not be anthropologically sexed, and which contained no characteristically male or female objects could not be included, and this will inevitable have skewed the sample towards earlier burials. There were frequently more feminine graves than masculine dated to the last phases of the cemetery's use, and at Cutry, Bulles, and Rödingen there were no masculine graves dated to the final phase. Only at Altenerding were there markedly more masculine than feminine graves at the end of the cemetery's use. This suggests that the trends seen here were only a partial representation of changes to gendered assemblages.

Although it was more common for investment in masculine burial to remain consistent than it was for feminine burial, in all the sites where this was the case, there were few to no masculine burials from the end of the cemetery's use. Likewise, in the cases where feminine grave good provision remained consistent while masculine declined, masculine burials outnumbered feminine burials in the final phase. It is improbable that these differences are a result of demographic change, but instead most likely relate to the tendency of burials to be furnished, and thus datable. This suggests that what we are seeing is not investment in grave goods declining in one gender over another, but rather a steady decline in the investment of the graves of one gender, but polarisation of wealth in another.

Worth briefly discussing are the few burials which contain both masculine and feminine objects. This was something which was quite rare, occurring in 0.3-2.5% of graves in the cemeteries examined (fig. 181). Graves of this type have been stated to not exist (e.g. Härke 2011b, 103), or to only occur in sites where graves had been disturbed, or hurriedly excavated

and badly recorded (e.g. Stoodley 1999, 77). On closer examination, some of these burials were revealed not to contain strictly 'mixed-gender' assemblages; many were stereotypically 'masculine' weapon burials, but containing one bead, something commonly found in male burials; this accounts for 11 of the 31 examples. In some cases, 'weapons' were included in female graves, but were most likely not intended as weapons; they had been repurposed for other functions, or were only parts of weapons. For example, grave 360 at Dover Buckland was a stereotypically feminine burial, with 74 beads, and two keys, but also with a sword pommel. This accounts for a further six of the 'mixed-gender' burials. In other instances, though, there does seem to have been a genuine use of feminine and masculine items together. Seven burials saw the inclusion of spearheads or arrowheads, with items such as finger-rings, earrings, or bracelets. Although perhaps not the stereotypical choice of weapon or jewellery, these were still strongly gendered. Stoodley identifies only one male burial in England which contained a finger-ring, although in Frankish contexts they appear to have been more common; the burial of Childeric also contained both a finger-ring and weaponry (Effros 2000, 633). In a Merovingian context, Halsall classes earrings and bracelets as strictly feminine goods, while spears and axes were strictly masculine (Halsall 1996, fig 8.4). Yet in four graves in Bulles[3], and one grave in Altenerding[4], they appear together.

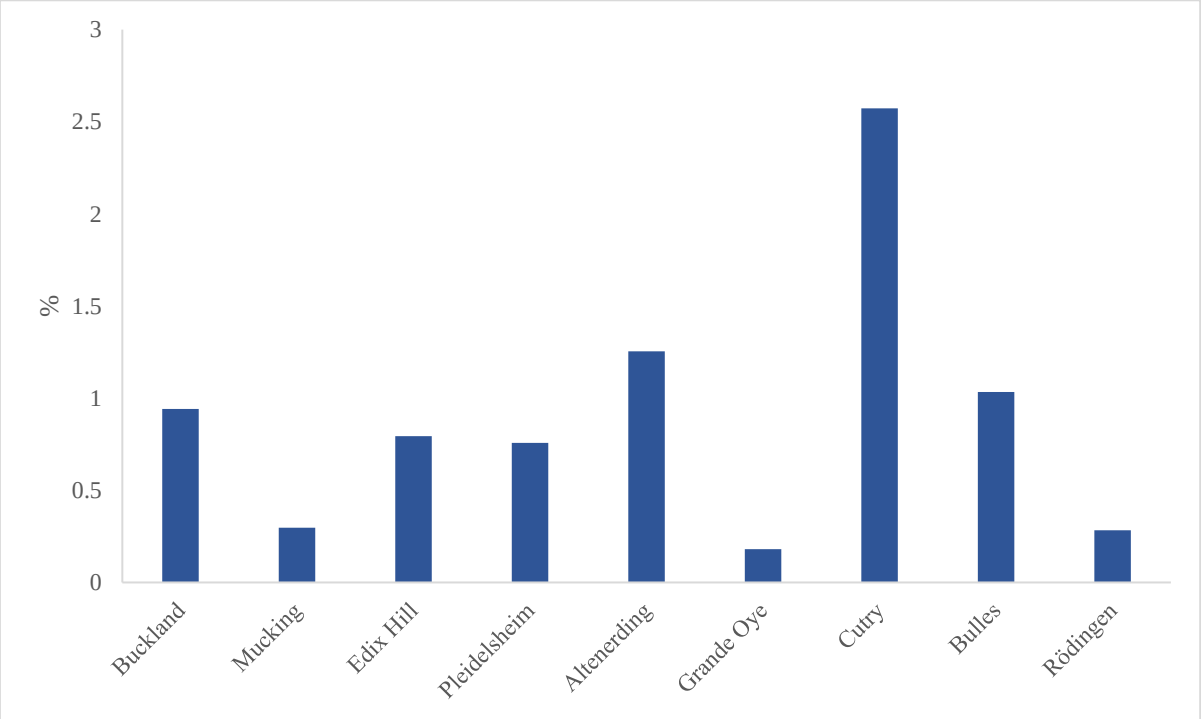

Figure 181: The percentage of graves in a cemetery containing both masculine and feminine objects

[3] Grave 45, 65, 344, 764,
[4] Grave 1273

These ‘mixed-gender’ assemblages were largely dated to earlier in the cemeteries’ use, to the sixth century rather than the seventh century, resulting in a statistically significant decrease of jewellery in masculine graves, or weapons in feminine graves in many cases. However, it may just be that there were fewer graves dated to the later period, and mixed-gendered graves were not found later only because of their rarity.

It has been suggested that in the seventh century, in England at least, the societal role of women changed. The continuation of well-furnished female burial in England, while male burial declined, has been attributed to the growing authority of religious women; land-owning families expressed their claim to the lands through the spiritual power of women, which later developed into Christian religious authority (Hamerow 2016, 442-446). The transition of social memory has been defined as a specifically feminine role in the early medieval world, encouraged through women’s roles in remembering the dead (Innes 2001, 17). In the two Anglo-Saxon sites where change was visible, Mucking and Buckland, there was consistent or increased investment in feminine graves. This appears to have been an almost purely Anglo-Saxon phenomenon, however, as the only other site where this was the case was Altenerding.

One suggestion for why the masculine burials on the continent rather than the feminine may have more commonly remained richly furnished, relates to the way gender was constructed in Frankish graves. In the seventh century, masculine symbolism became increasingly dominant, with feminine graves increasingly using plaque-buckles which had previously only been found in male graves. At the same time, Sahlin’s style II decoration was adopted on such objects, which again was only found on masculine items in its earliest phases of use. Halsall interprets these changes as a shift in how gender was defined; rather than having both masculine and feminine ideals, gender was related only to a masculine ideal (Halsall 2010, 381). This goes some way to explaining why there was continued investment in masculine burials in so many areas, especially Frankish areas, while there was a steady decline in investment in feminine burials.

4.4. The Location of Objects in the Grave

The number of graves for which location information was obtainable for a cemetery was limited (fig. 182). The locations of objects in relation to the body could not be determined when the skeleton was severely decayed, or where the grave had been disturbed and objects moved from their original position. The acidic nature of the soil at Rödingen meant that very few skeletal remains survived (Janssen 1993, 43), making it impossible to determine the position of objects in relation to the body. Grave plans were provided for very few graves in the report, and so it was not possible to reconstruct the location of various types of grave goods in relation to the body in the same was as was possible at many other cemeteries. Rödingen has thus not been included in this analysis. Poor skeletal preservation was also an issue at Mucking, but there, 90% of the graves contained soil silhouettes (Hirst and Clark 2009, 12), which allowed approximate locations of objects in relation to the body to be estimated. The sample size was thus reduced for this analysis, but not to unfeasible levels.

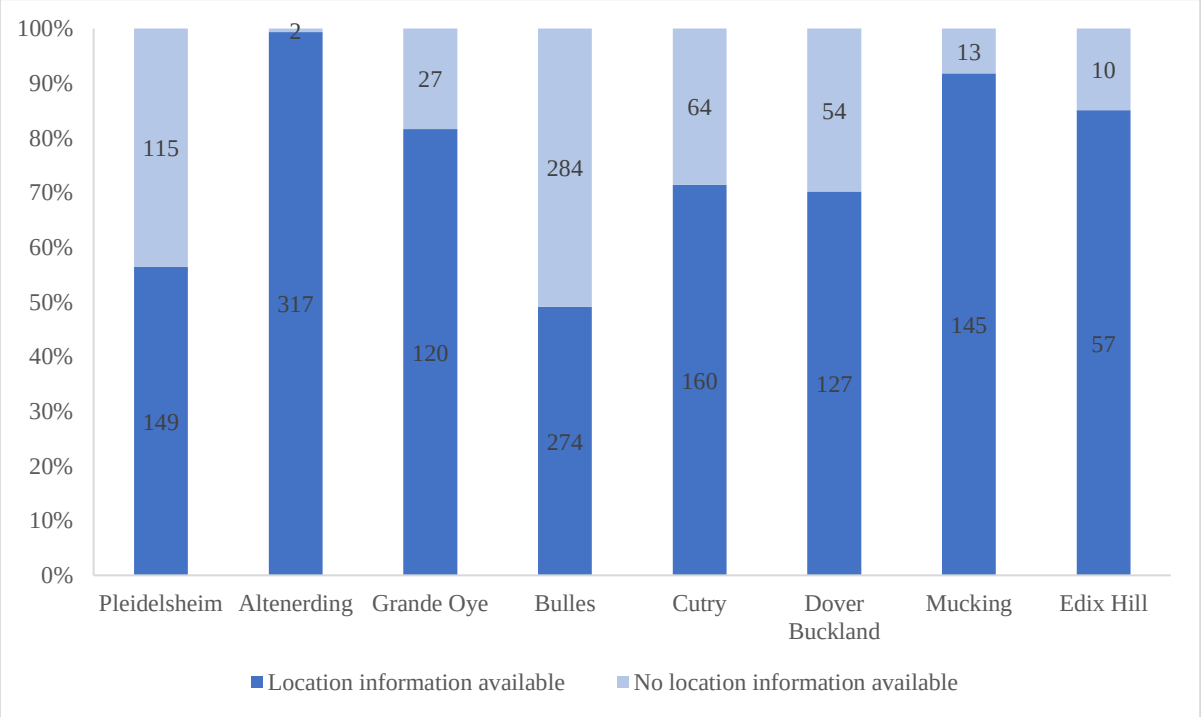

Figure 182: The proportion of graves in a cemetery for which the location of objects within could be determined

4.4.1. Overall Changes in Location

In many cases, it was not possible to identify any overall changes in the location of objects. Only at Pleidelsheim was there a clear change. Objects placed directly onto the body itself became less common over time, though there was no significant change in the frequency of objects found next to the body, or elsewhere in the grave. At the start of the period, objects were overwhelmingly more likely to be placed on the body, whereas by the mid seventh century, they were equally likely to be placed anywhere, either on the body or in the grave (fig. 183).

In all other instances, no overall change was visible. Usually the majority of objects in a grave were placed directly on the body, with a smaller number next to it. It was rarer for objects to be placed elsewhere in the grave, because this required a larger grave in the first place. This was the case at Cutry (fig. 186), Grande Oye (fig. 187), Buckland (fig. 188), and Edix Hill (fig. 189). At Altenerding (fig. 184), and Bulles (fig. 185), objects were roughly likely to be placed on the body, or next to it, however, and at Bulles there were more objects found elsewhere in the grave. At Mucking, meanwhile, although objects were still mostly placed on the body, they were found in largely equal numbers next to the body and elsewhere in the grave (fig. 190).

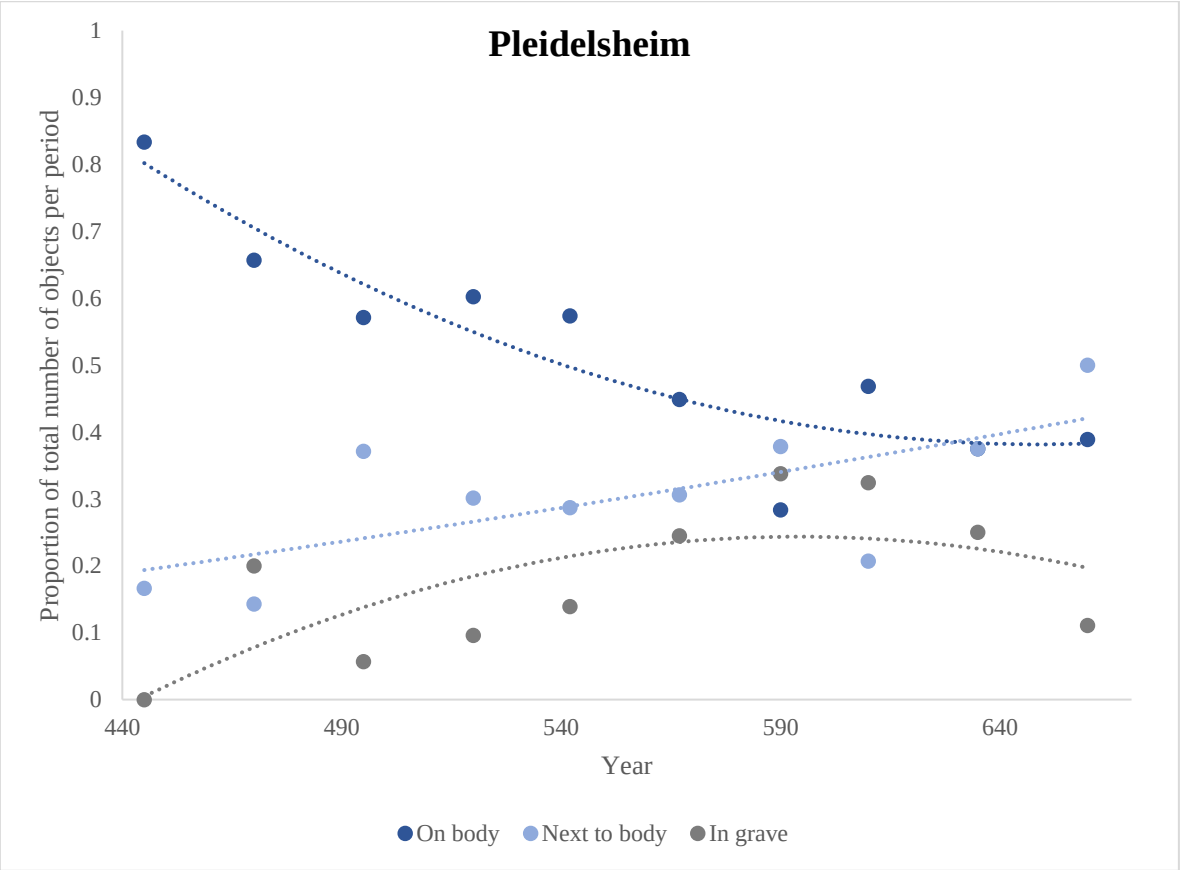

Figure 183: The location of objects in the grave at Pleidelsheim. Polynomial trendlines order 2. P=0.003

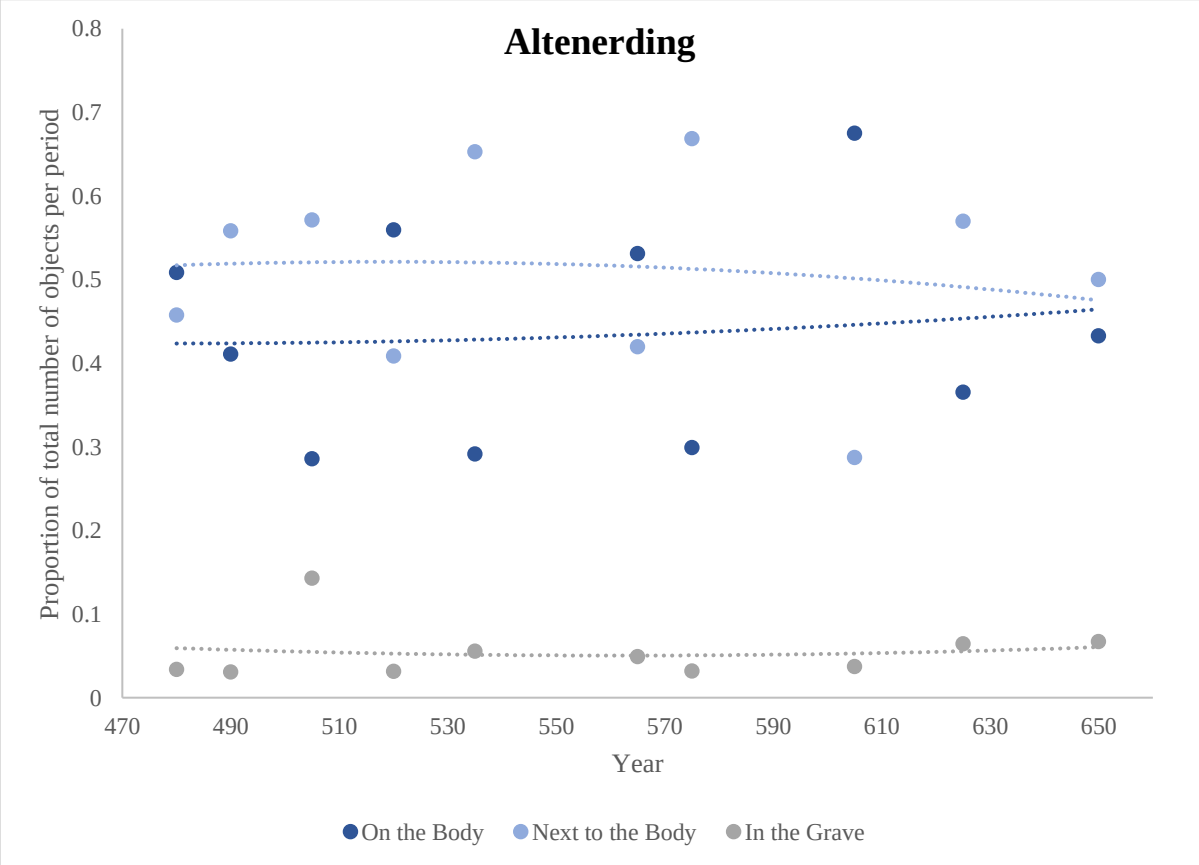

Figure 184: The location of objects in the grave at Altenerding. Polynomial trendlines order 2. P=0.051

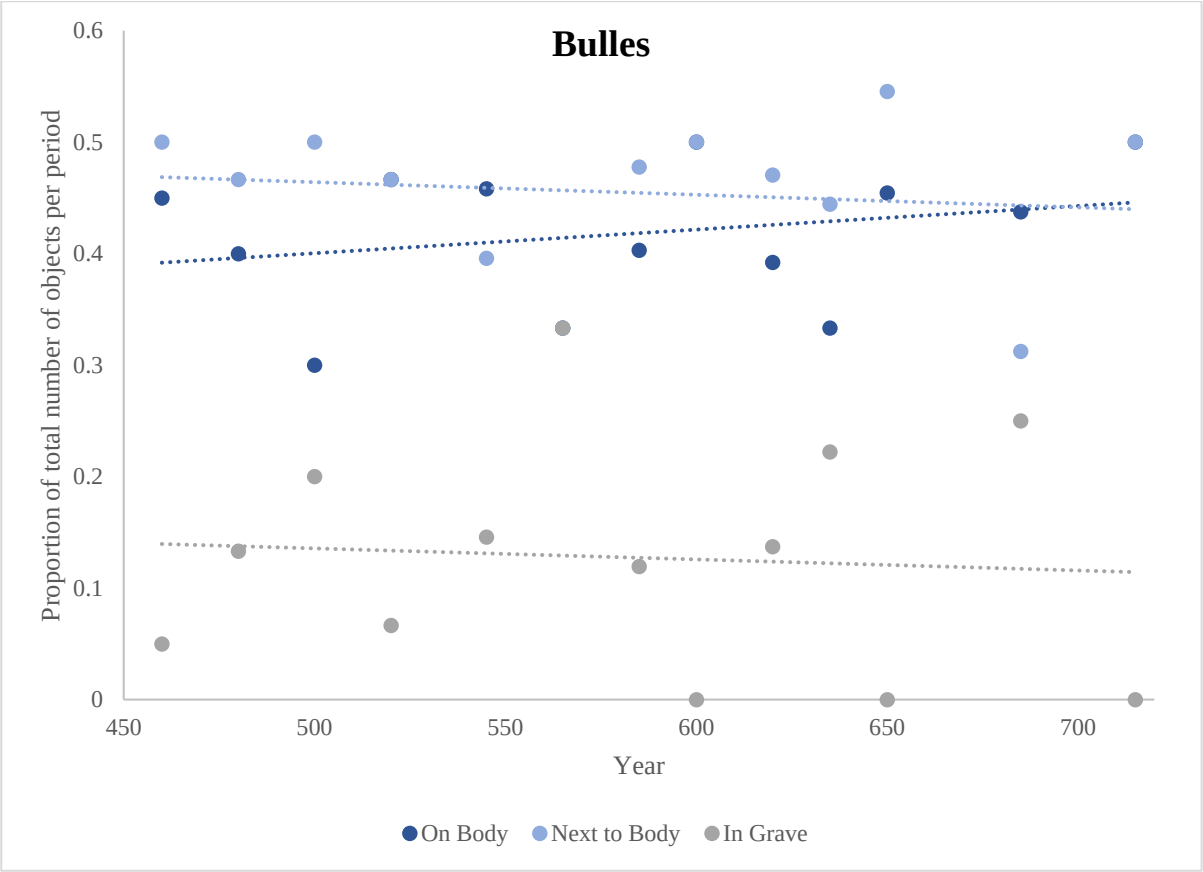

Figure 185: The location of objects in the grave at Bulles. Linear trendlines. P=0.195

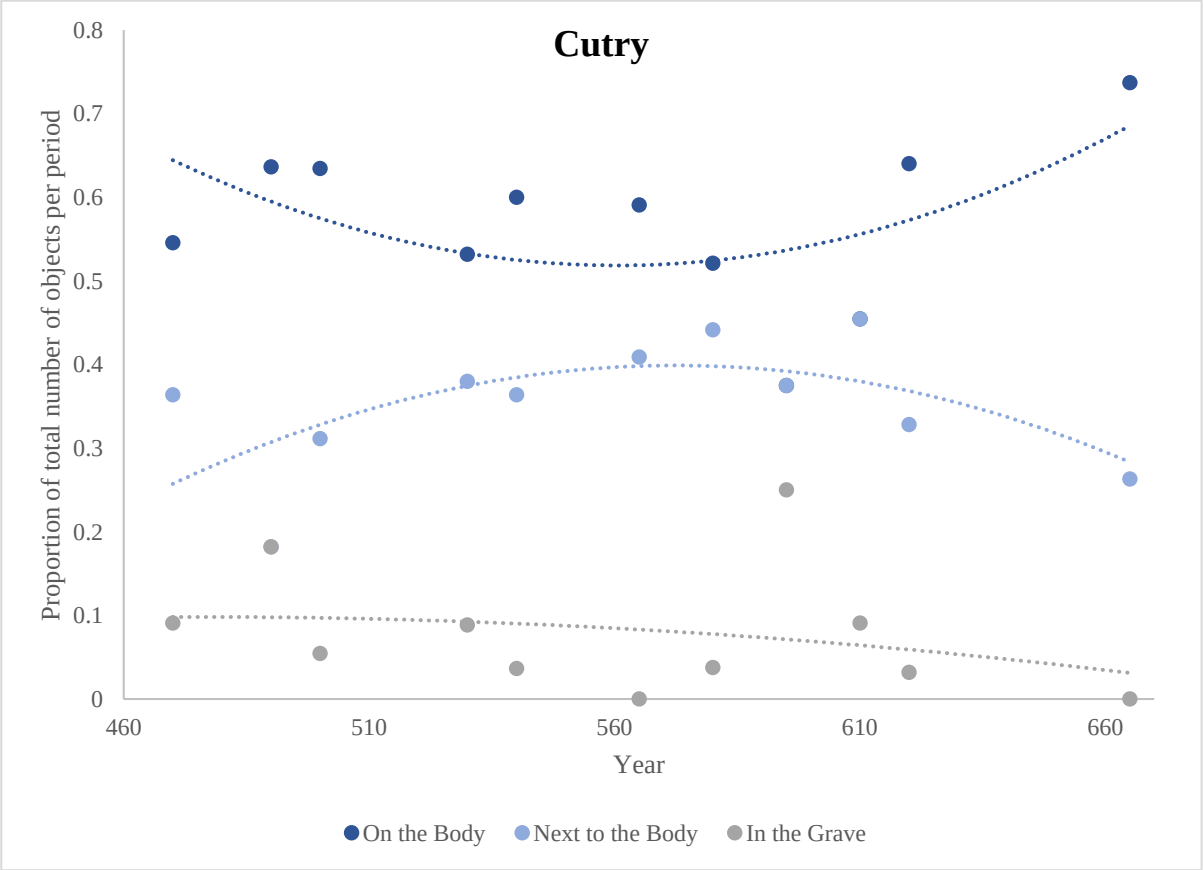

Figure 186: The location of objects in the grave at Cutry. Polynomial trendlines order 2.

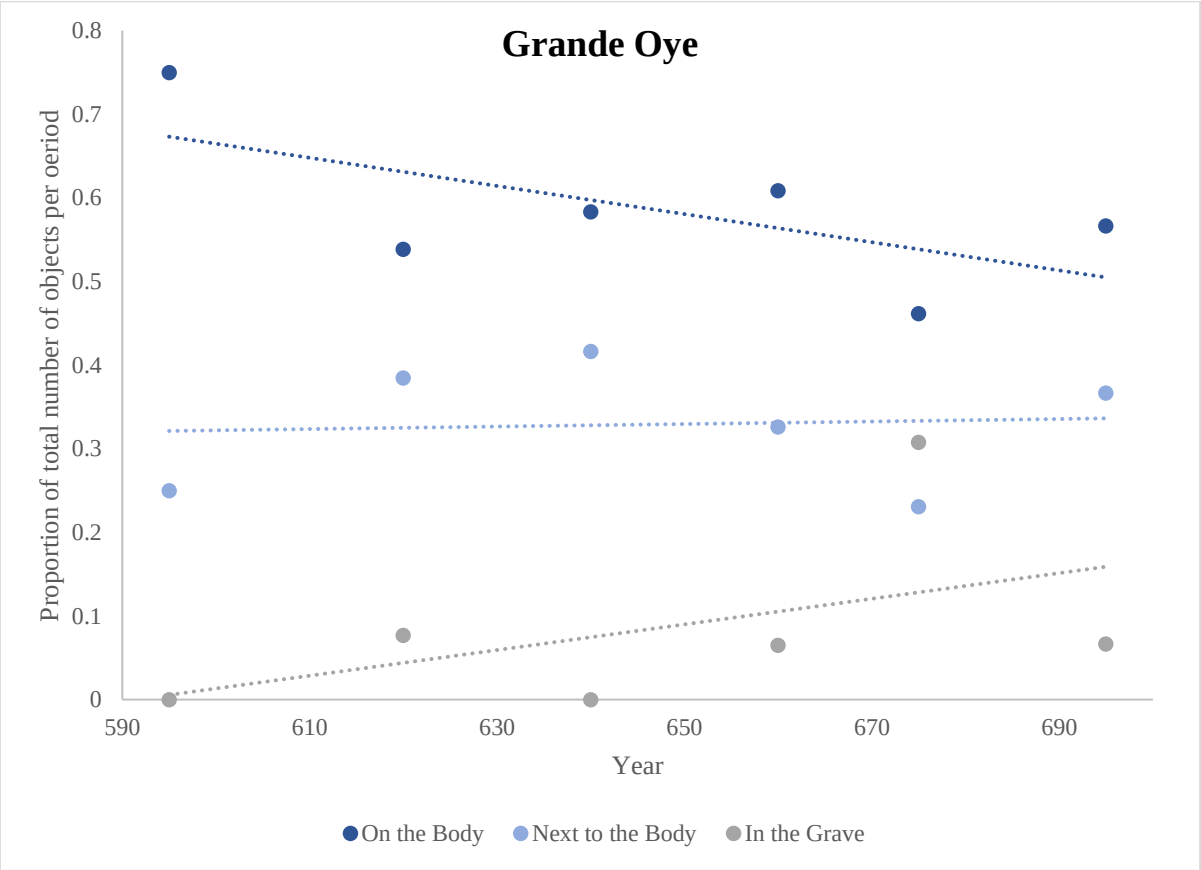

Figure 187: The location of objects in the grave at Grand Oye. Linear trendlines. P=0.572

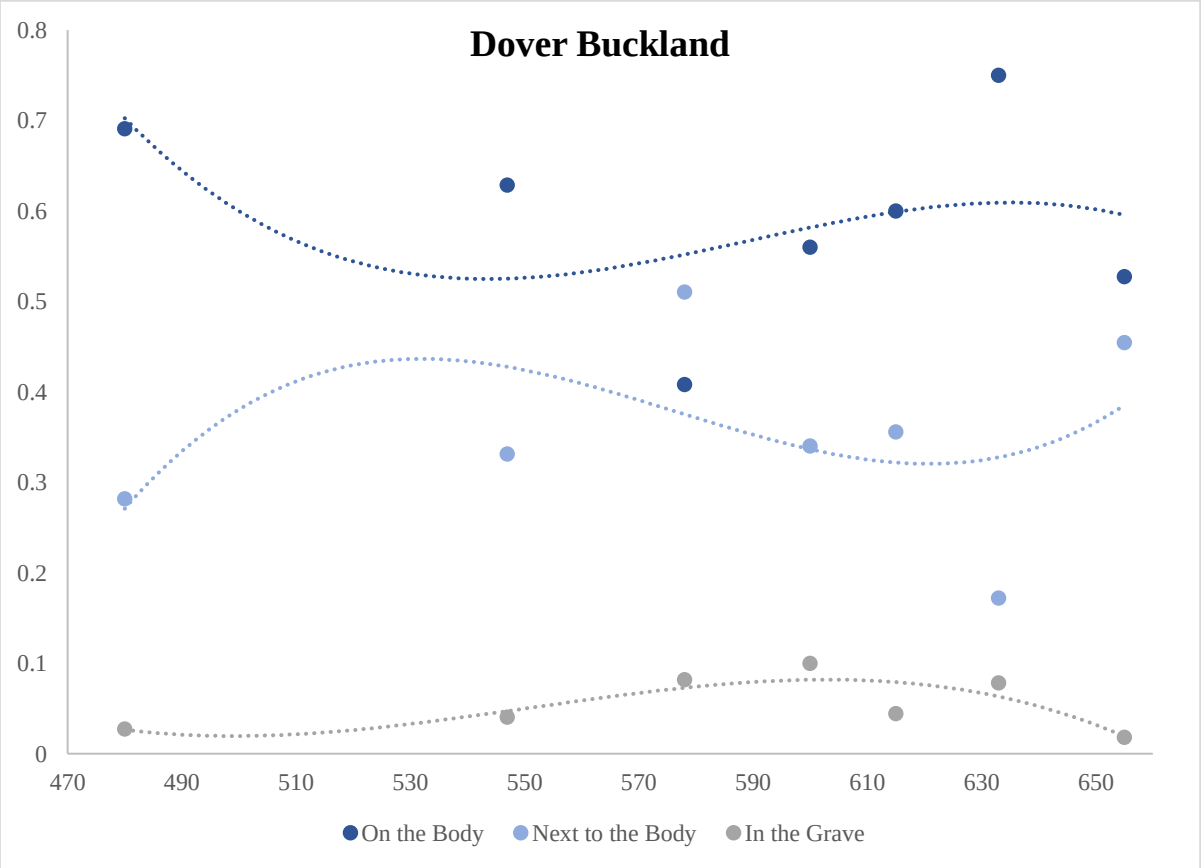

Figure 188: The location of objects in the grave at Buckland. Polynomial trendlines order 3. P=0.121

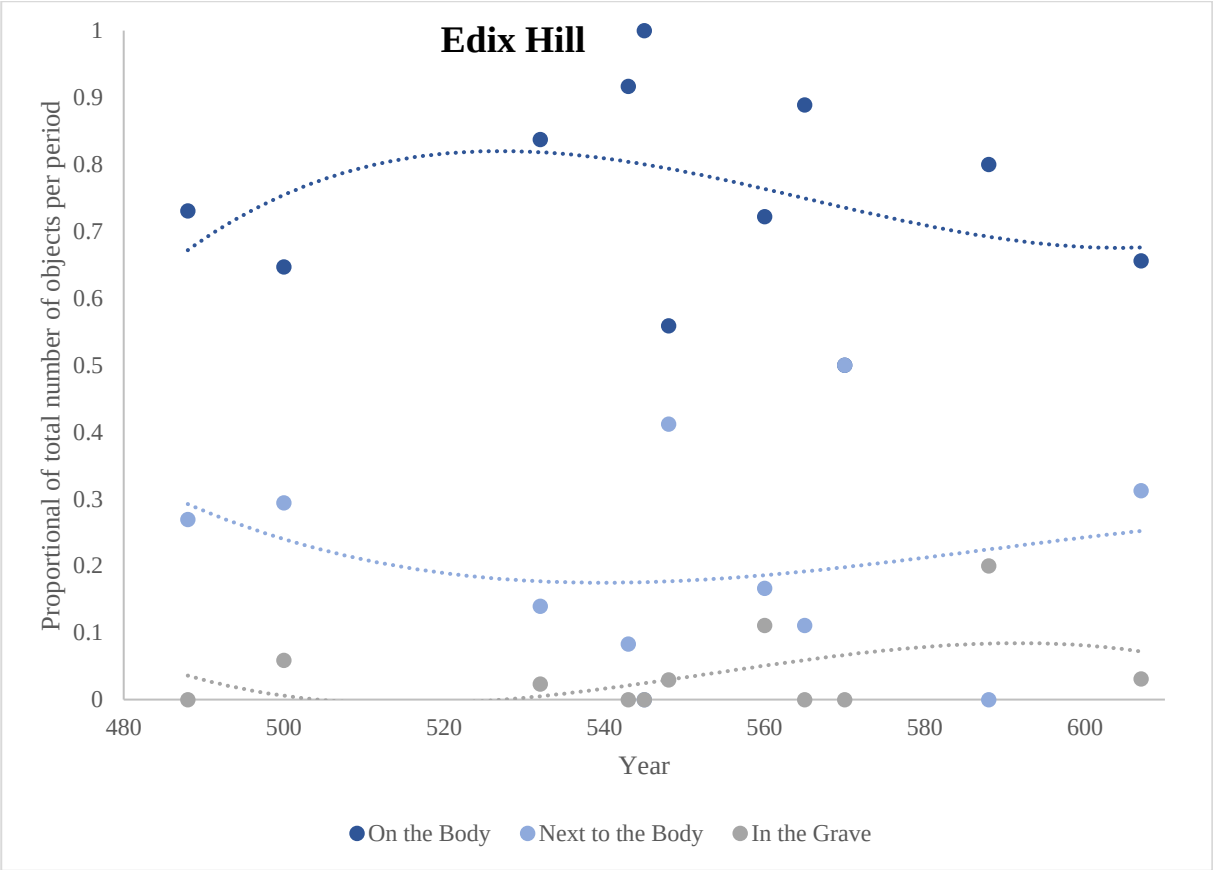

Figure 189: The location of objects in the grave at Edix Hill. Polynomial trendlines order 3. P=0.001

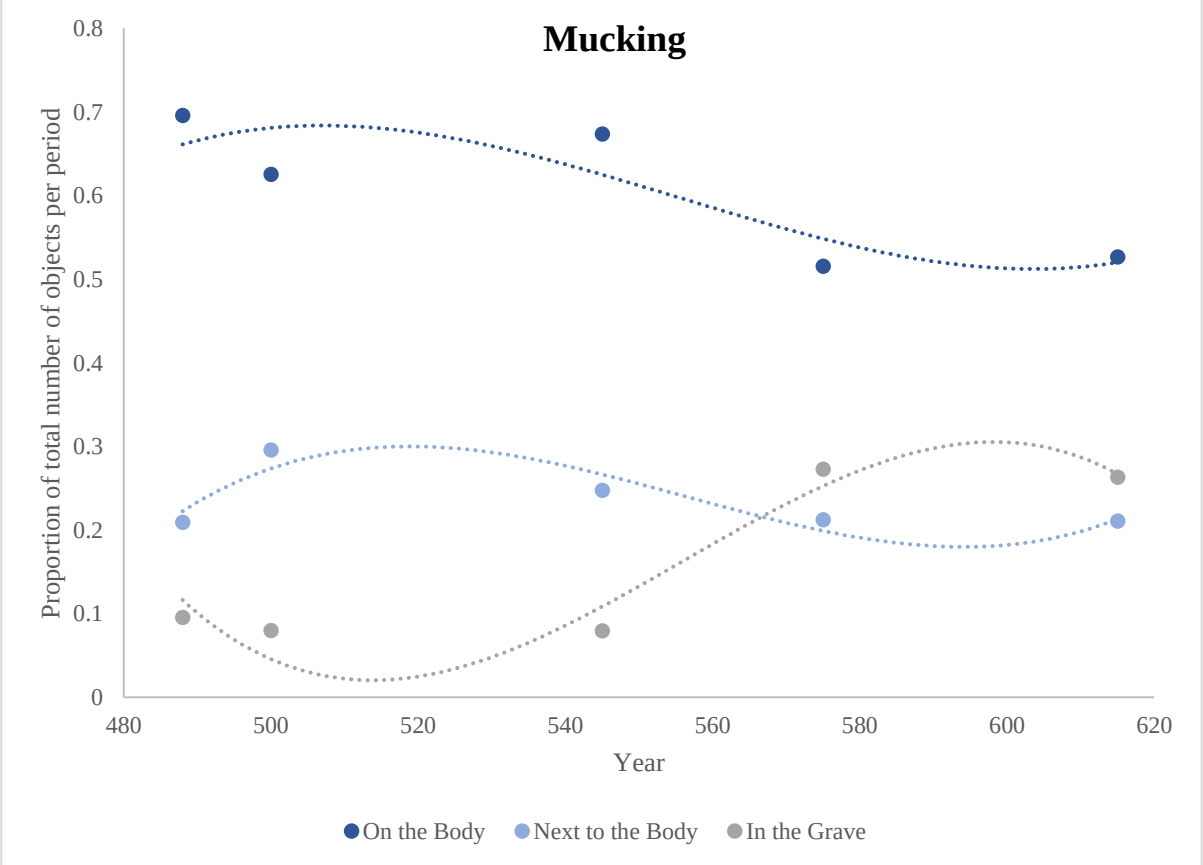

Figure 190: The location of objects in the grave at Mucking. Polynomial trendline order 3. P=0.424

4.4.2. Types of Grave Goods

There were, however, frequently changes in where individual object types were placed in the grave. Though this was rarely consistent between cemeteries, it does indicate a greater degree of changing practice than was suggested by the overall numbers. The greatest differences were seen at Pleidelsheim, but other sites also saw the movement of one or two objects. Only at Grande Oye were objects placed in the same locations in relation to the body throughout the entire period.

Personal accessories became more likely to be placed away from the body in later periods, at Pleidelsheim (fig. 191), Altenerding (fig. 192), Mucking (fig. 193), and Edix Hill (fig. 194). The change at Pleidelsheim was the most marked; overwhelmingly associated with the body in the earliest phases, but only found next to the body in the last phase. At Altenerding, it was more subtle, but still statistically significant.

Dress accessories were the next most common category to move location. This happened at Pleidelsheim (fig. 195), Altenerding (fig. 196), and Bulles (fig. 197) where they were the only type of object which moved. Again, the change at Pleidelsheim was the clearest; dress accessories were overwhelmingly most likely to be placed on the body in the mid fifth century, but equally likely to be found on or next to the body in the mid seventh century. The changes at other sites were more subtle.

Other object types also moved location, but less consistently. This included vessels, fittings and animal remains at Pleidelsheim, cosmetics and animal remains at Altenerding, fittings at Edix Hill, tools at Cutry (fig. 198), and cosmetics at Buckland.

There were a few instances where objects became more closely associated with the body. Weapons at Cutry (fig. 201) and at Altenerding (fig. 200) became more likely to be placed on the body than next to it later. At Dover Buckland, jewellery (fig. 202) and tools also became more commonly associated with the body over time (fig. 203). In the case of jewellery, this was only a slight change, and jewellery was consistently found most commonly on the body. Tools were relatively rare types of object, so it is difficult to read too much into such small changes, but the movement of weapons at two sites is potentially more interesting.

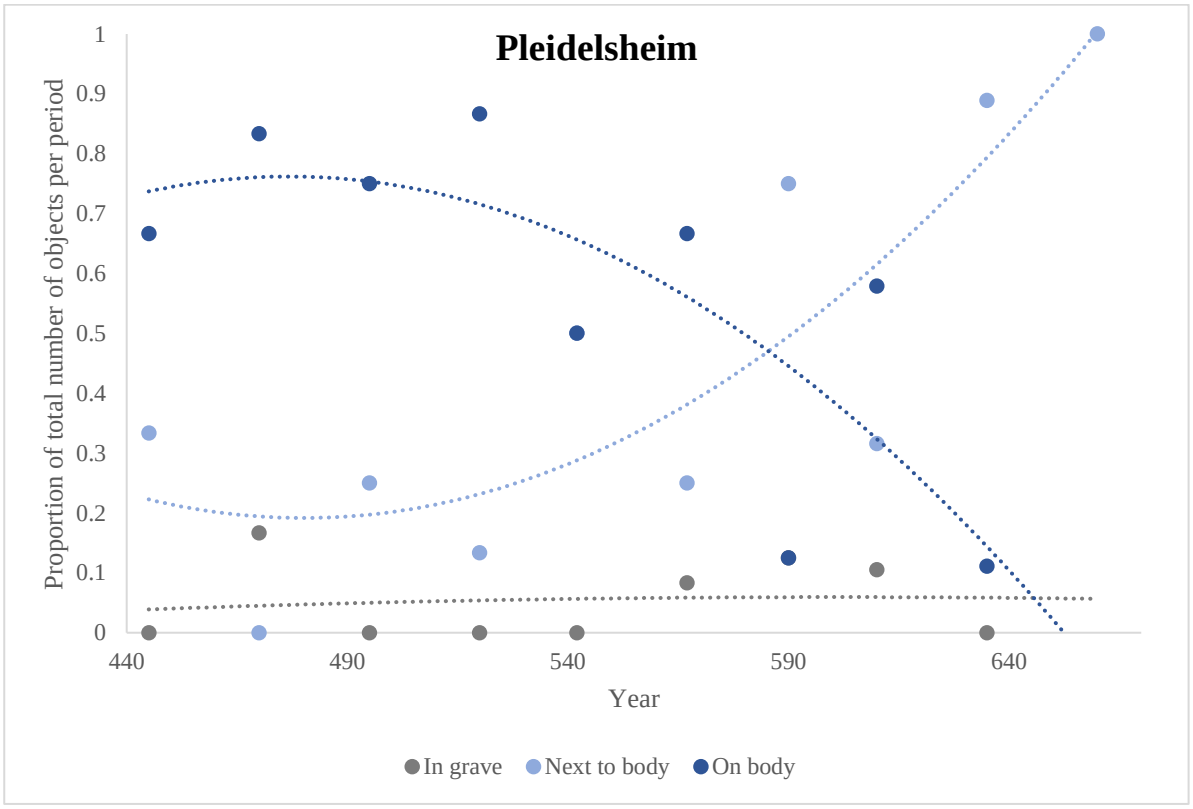

Figure 191: The location of personal accessories in the grave at Pleidelsheim. Polynomial trendlines order 2. Mean difference between 'on the body' and 'next to the body' = -42.7, p<0.0005

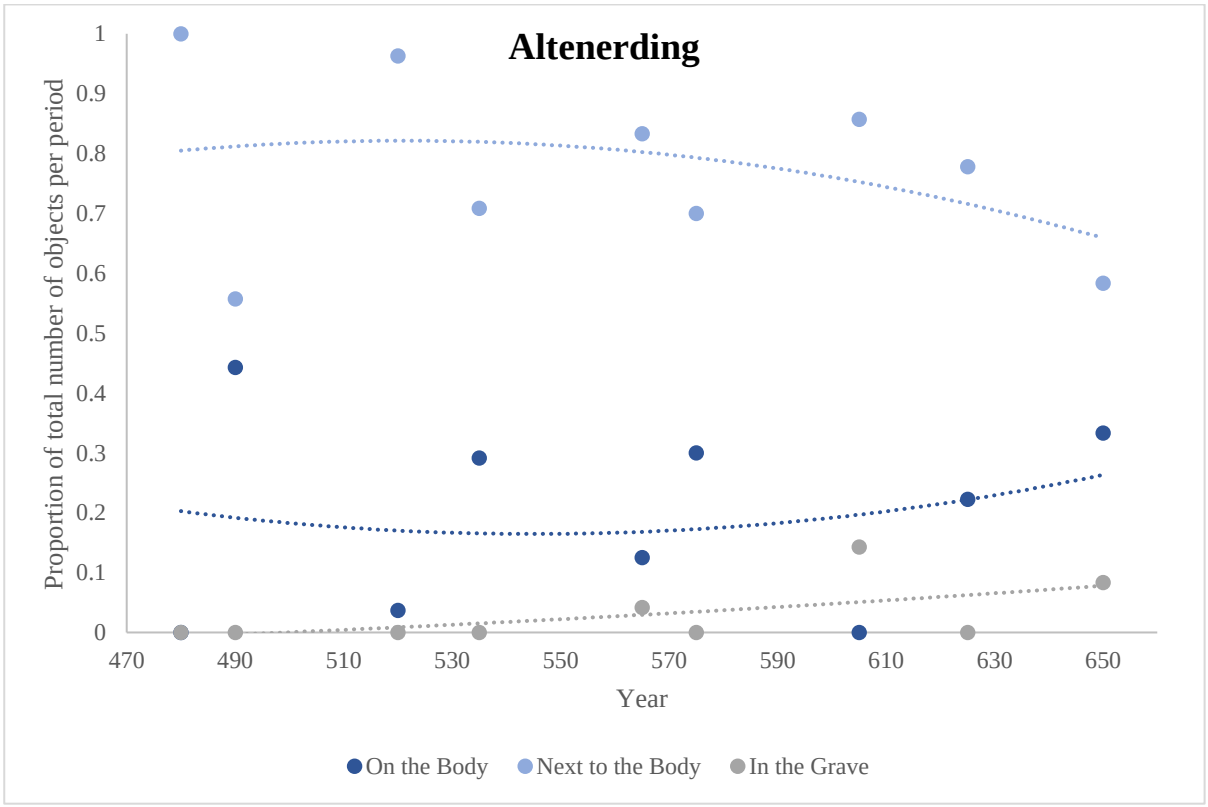

Figure 192: The location of personal accessories in the grave at Altenerding. Polynomial trendlines order 2. Mean difference between 'on the body' and 'in the grave' = -61.5, p=0.03

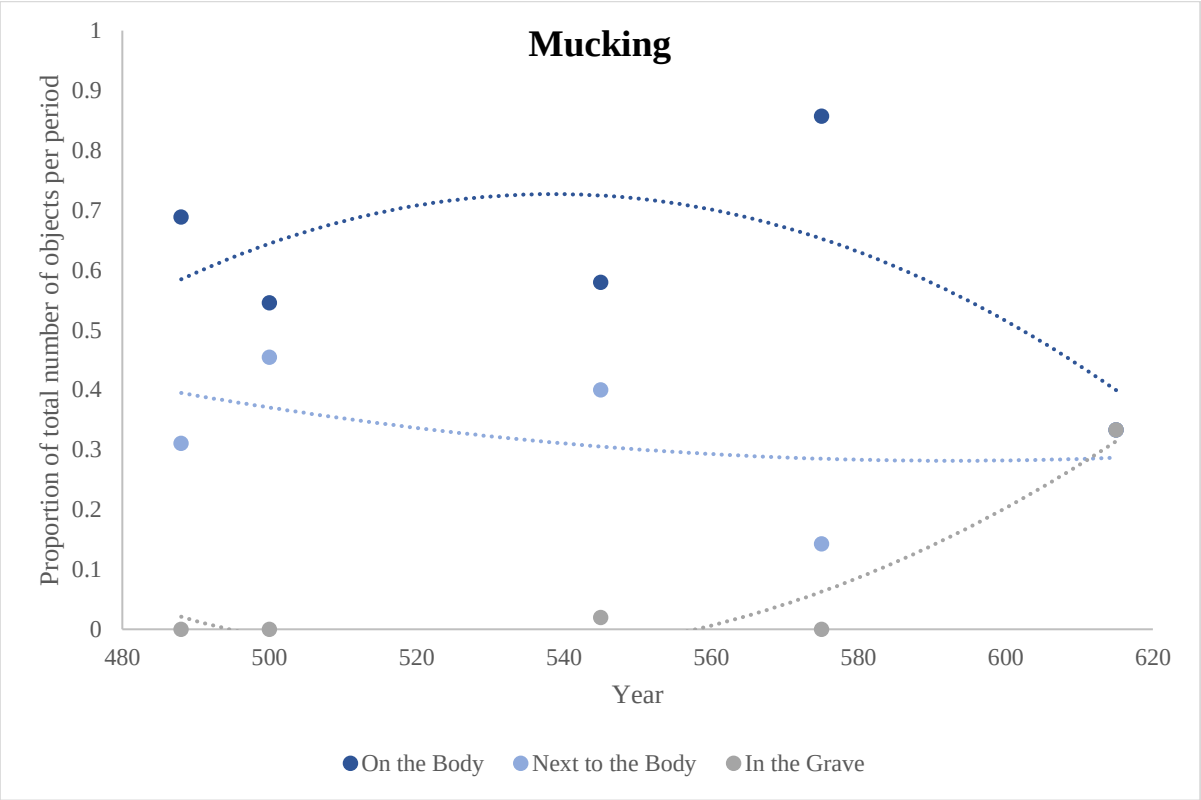

Figure 193: The location of personal accessories in the grave at Mucking. Polynomial trendlines order 2. Mean difference between 'on the body' and 'in the grave' = -96.3, p=0.005. Mean difference between 'next to the body' and 'in the grave' = -91.5, p=0.007

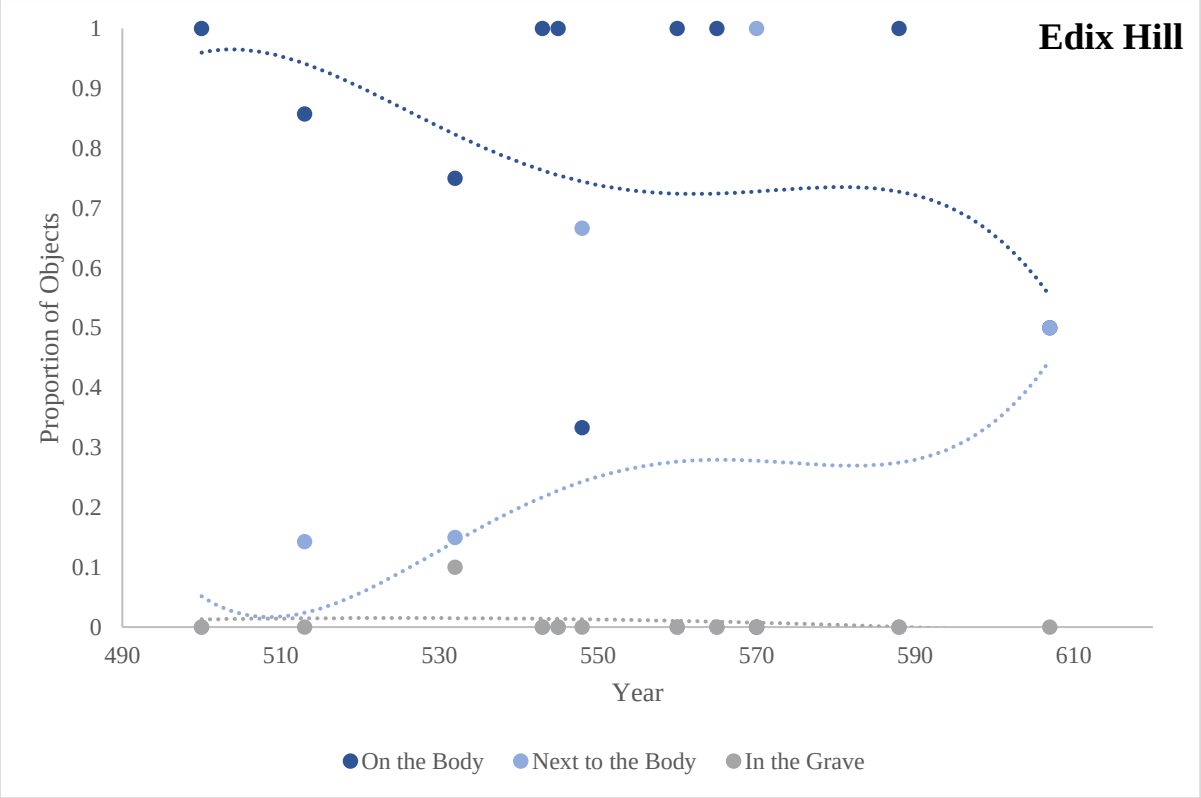

Figure 194: Locations of personal accessories in the grave at Edix Hill. Mean difference between 'on the body' and 'next to the body' = -20.9, p=0.023.

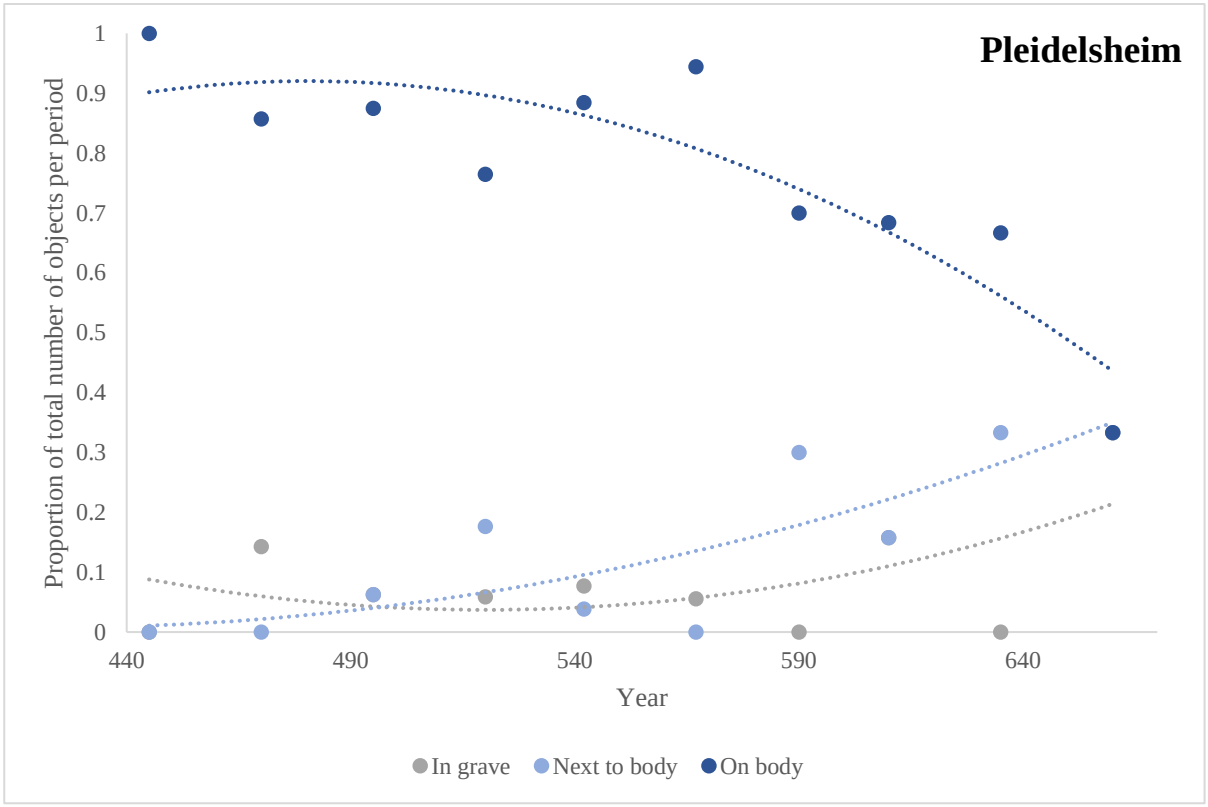

Figure 195: The location of dress accessories in the grave at Pleidelsheim. Polynomial trendlines order 2, Mean difference between 'on the body' and 'next to the body' = -38.7, p=0.002

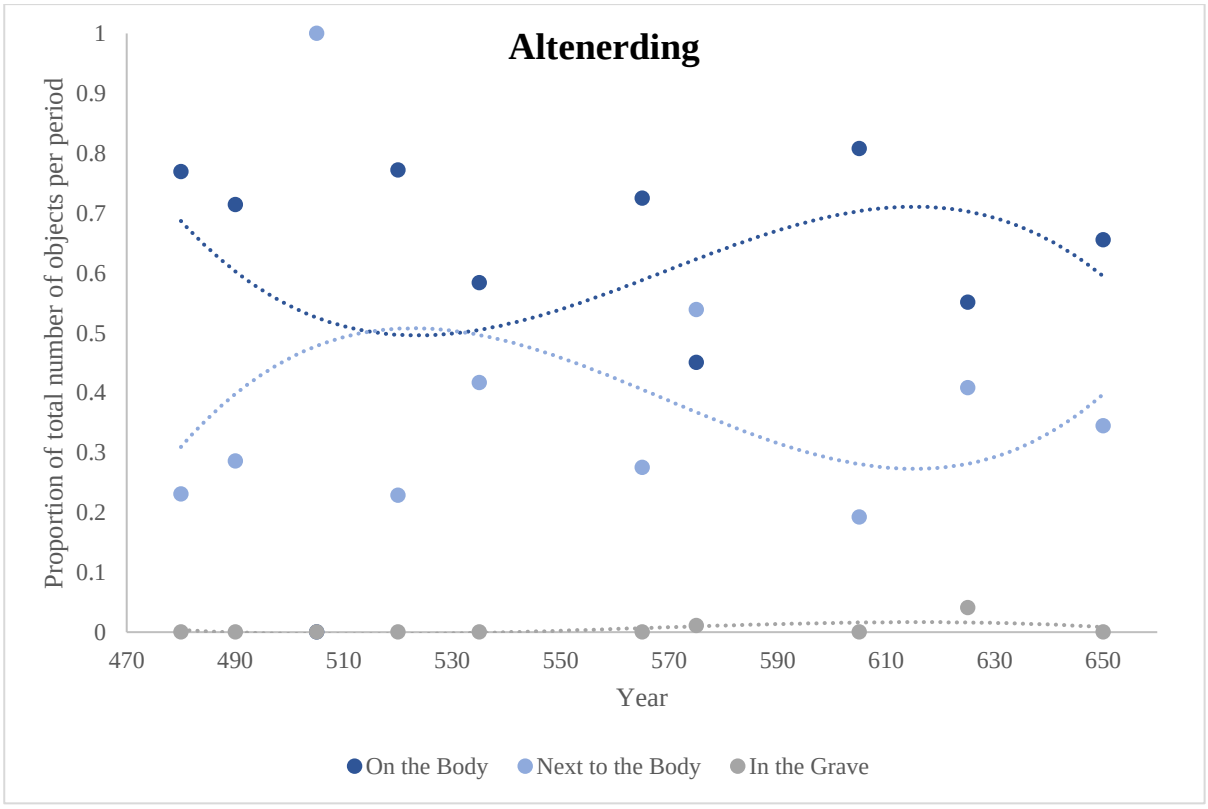

Figure 196: The location of dress accessories in the grave at Altenerding. Polynomial trendlines order 3. Mean difference between 'on the body' and 'next to the body' = -11.5, p=0.015

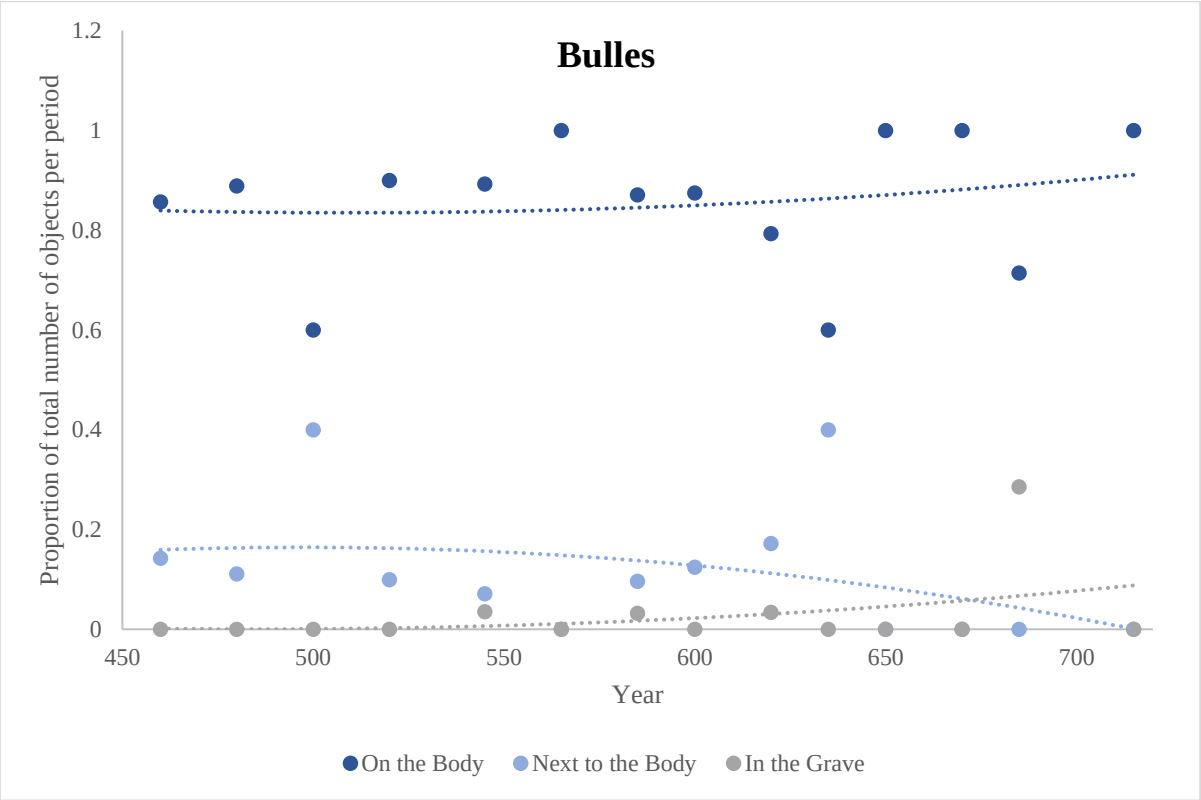

Figure 197: The location of dress accessories in the grave at Bulles. Mean difference between 'on the body' and 'in the grave' = -117.1, p=0.008. Mean difference between 'next to the body' and 'in the grave' = -150.4, p=0.001.

The Movement of Other Object Categories

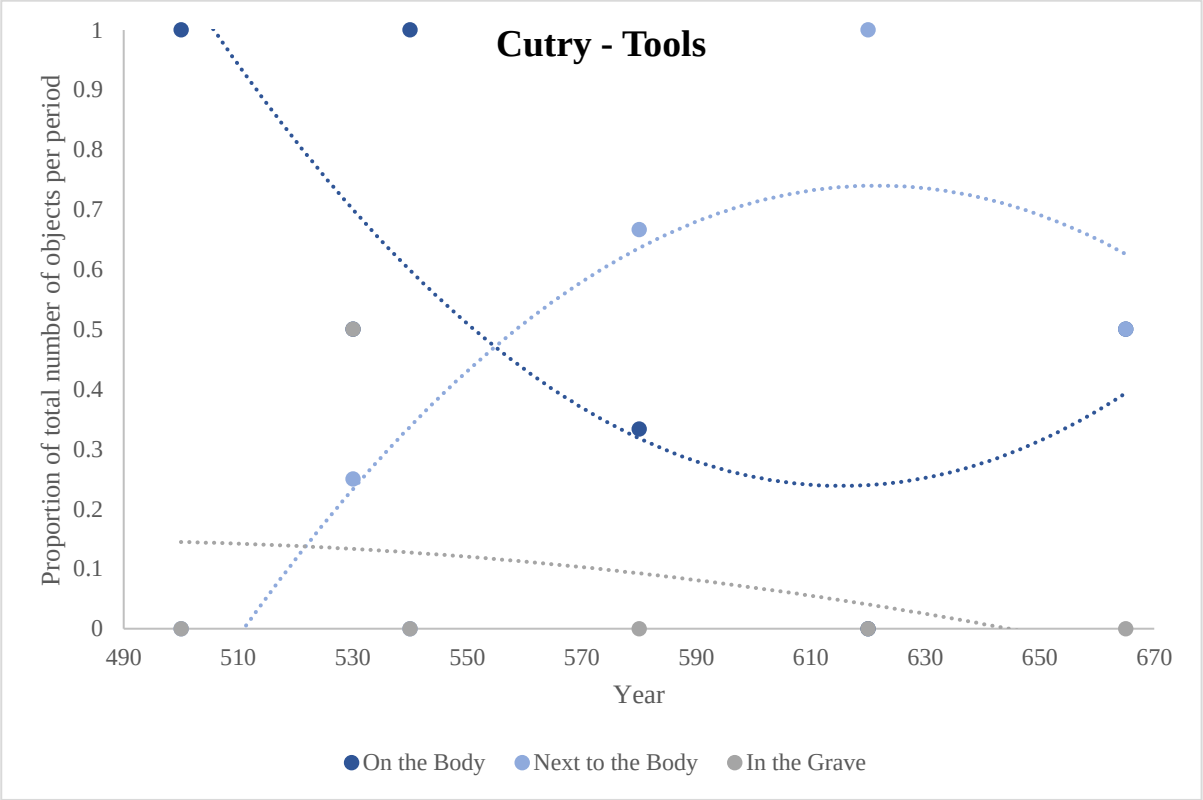

Figure 198: The location of tools in the grave at Cutry. Polynomial trendlines order 2. Mean difference between 'on the body' and 'next to the body' = -56.5, p=0.023

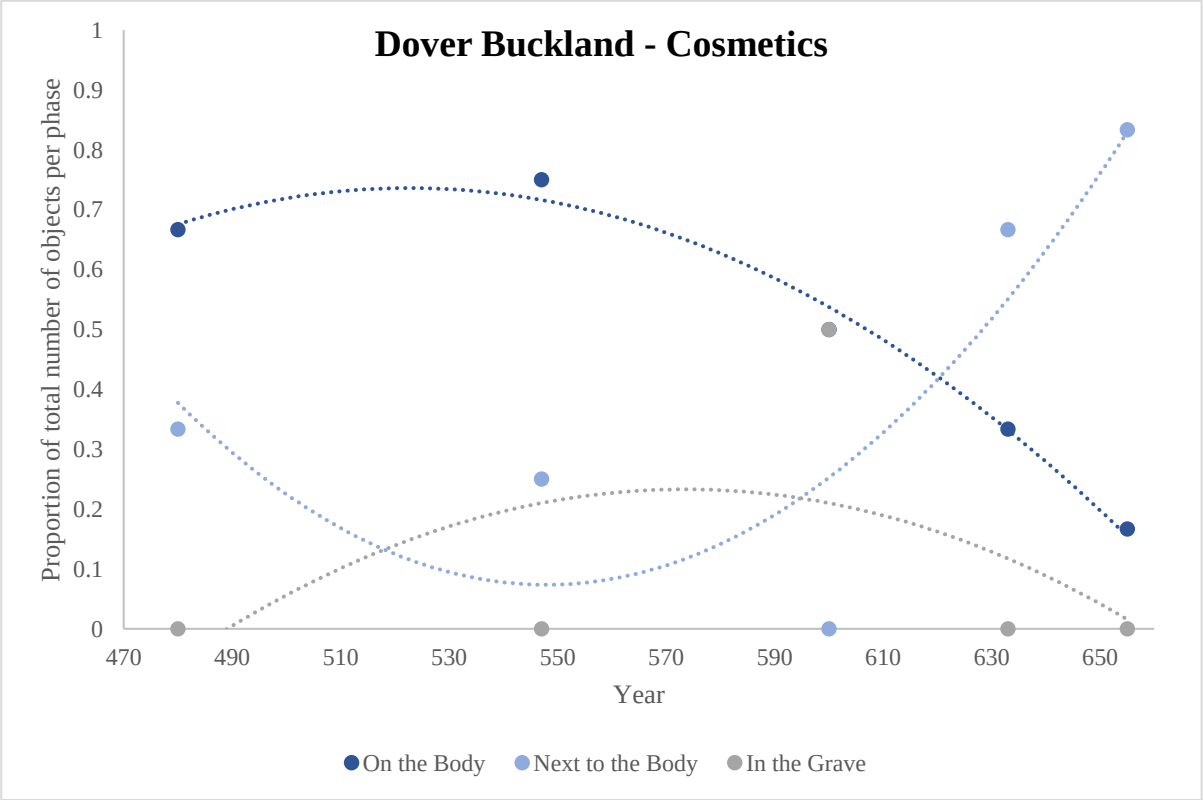

Figure 199: The location of cosmetics in the grave at Buckland. Polynomial trendlines order 2. Mean difference between 'on the body' and 'next to the body' = 54.2, p=0.004

Objects which Moved Closer to the Body

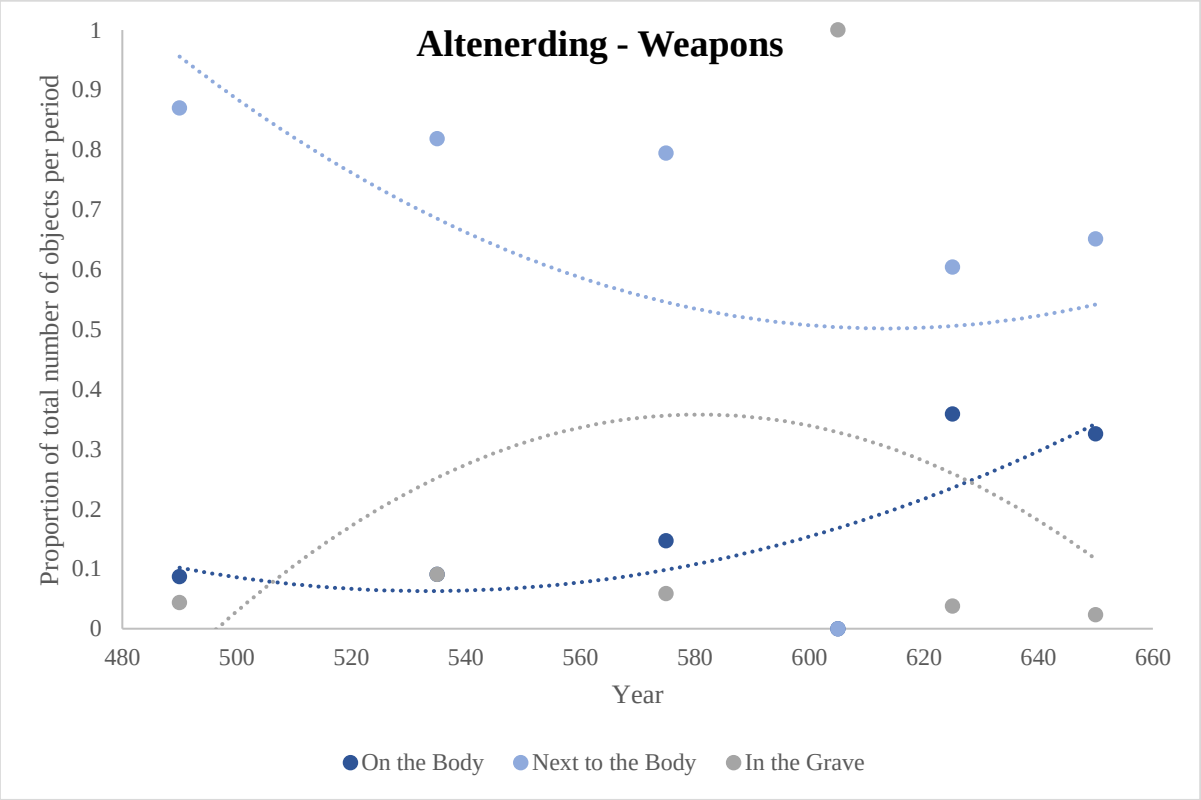

Figure 200: The location of weapons in the grave at Altenerding. Polynomial trendlines order 2. Mean difference between 'on the body' and 'next to the body' = 27.4, p=0.001

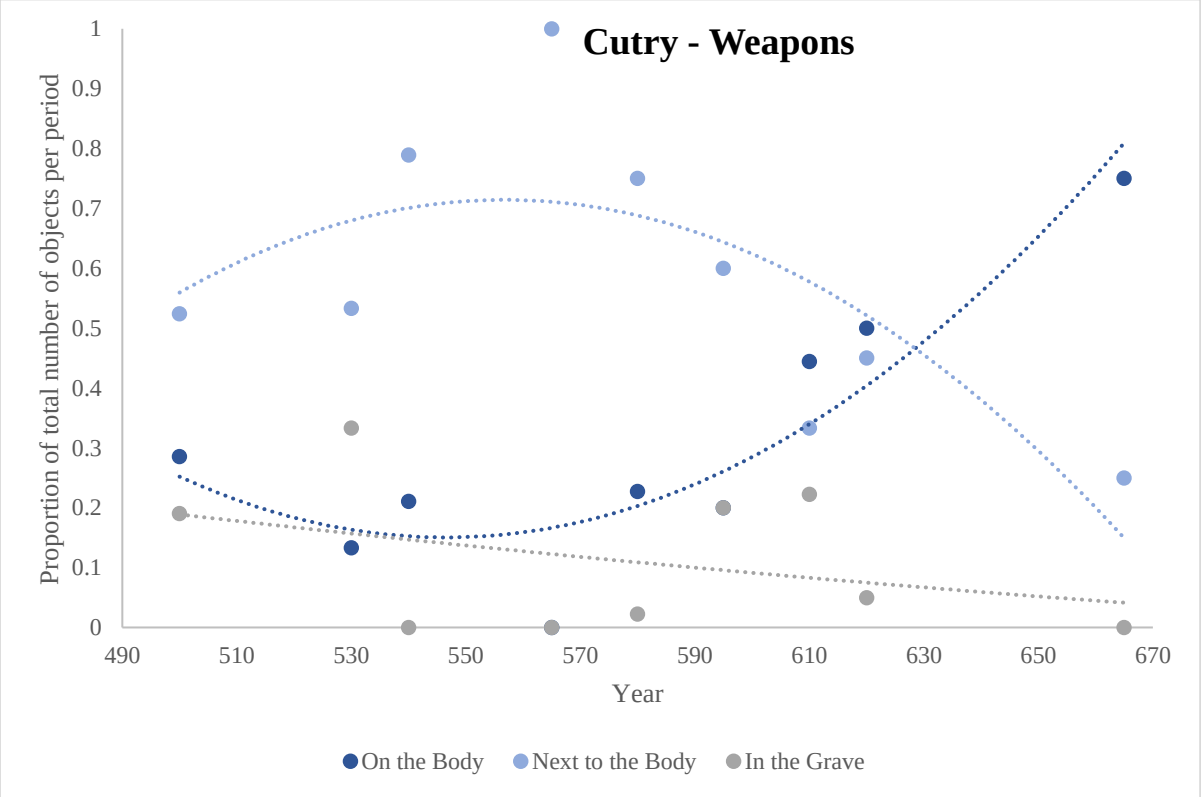

Figure 201: The location of weapons in the grave at Cutry. Polynomial trendlines order 2. Mean difference between 'on the body' and 'next to the body'= 18.2, p=0.039. Mean difference between 'on the body' and 'in the grave'=30.1, p=0.039

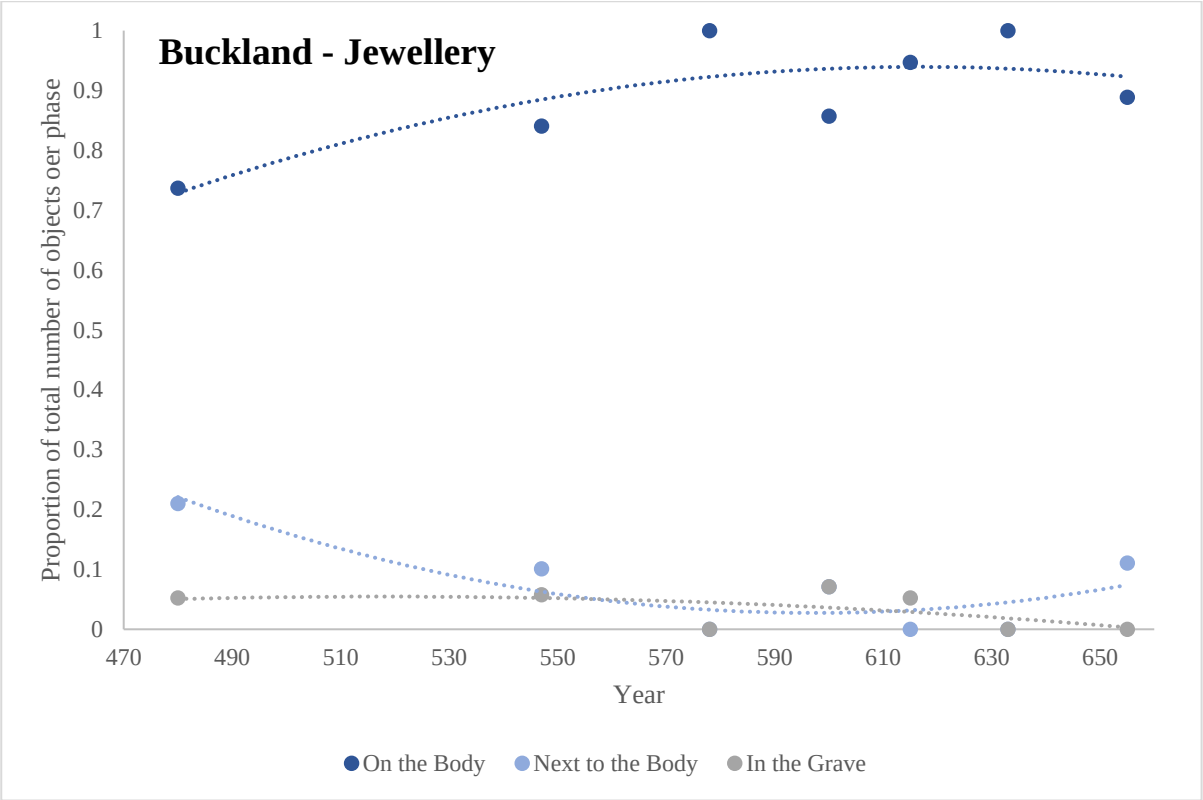

Figure 202: The location of jewellery in the grave at Dover Buckland. Mean difference between 'on the body' and 'next to the body' = -33.3, p=0.017

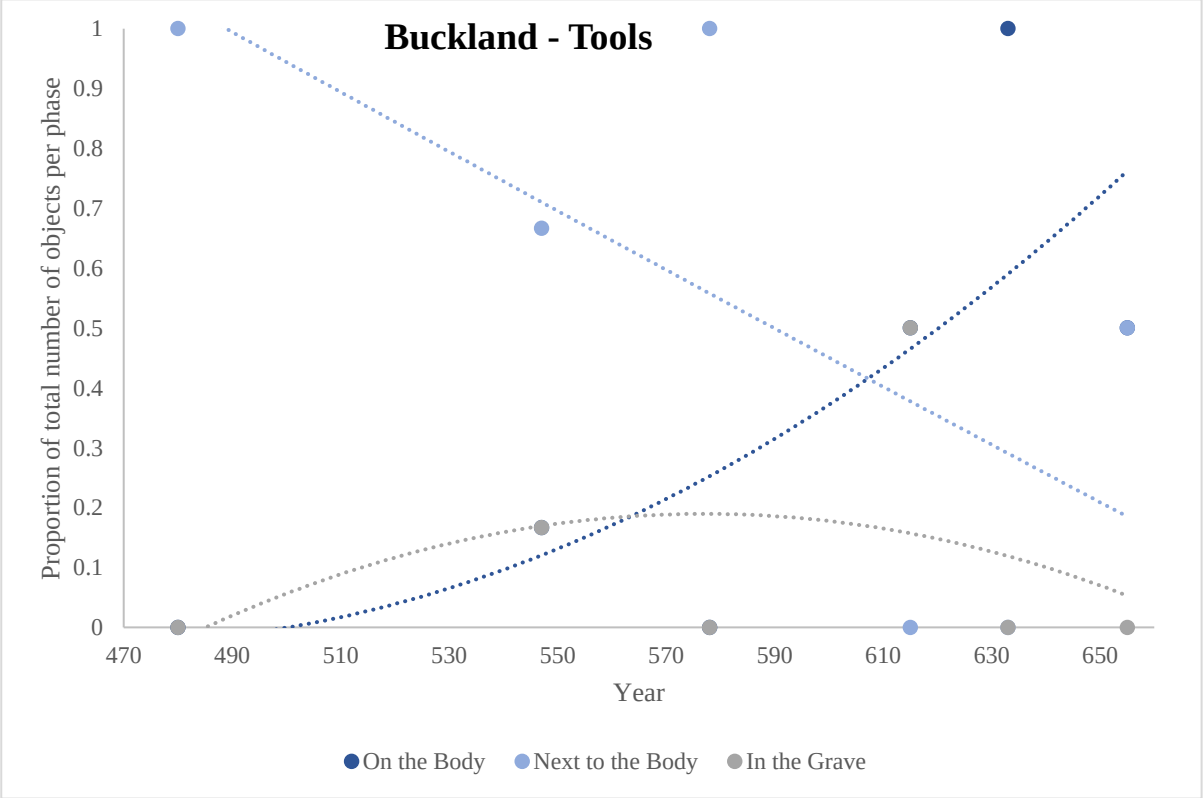

Figure 203: The location of tools in the grave at Dover Buckland, Mean difference between 'on the body' and 'next to the body' = -57.5, p=0.012

4.4.3. Discussion

In almost every instance of changing location, there was a shift in emphasis away from the body, with objects becoming increasingly more likely to be placed next to it, or further away in the grave, rather than directly in contact with it. This is a trend which has been observed at other sites as well; for example, at the seventh-century cemetery of Harford Farm, the burials were notable for the number of dress accessories which were placed away from the body, in positions which suggested they were not included as part of dress. It was suggested that these objects were placed with the dead as mnemonics because of their biographies (Williams 2006, 67); they were important, potentially because of their relation to the deceased, but they could hold that importance in their own right, without that direct association with the person.

Another potential explanation for the increasing shift of grave goods away from the body is that it represented a compromise between the desire for lavish funerary display, and cultural norms which increasingly excluded such display (Scull 2015, 78). Given that these changes were contemporary with decreasing investment in grave goods as a whole, this is a reasonable explanation. It could also mark a change in the role of grave goods. Objects which were outside a coffin, deposited higher in the grave fill, or found in unusual positions for their type, such as dress accessories which were not on the body, are more likely to have been gifts to the deceased, rather than being representative of identity, or the deceased's personal belongings (King 2004, 220-1). These explanations are not necessarily contradictory, and could exist side-by-side.

An alternative way of viewing the change in location, however, would be to see it as part of a decreasing emphasis on the body itself, and its decreasing importance within the funerary ritual. Laying out the corpse in a semblance of life became less important as the corpse was viewed as having fewer and fewer links with the person they had been during life. The centrality of the corpse in funerary practices is frequently overlooked, despite funerary rituals being guided largely by how people perceived of the corpse. This will be discussed further in the next chapter.

4.5. Glocalisation: Individual Sites and Regional Trends

Local communities, on the whole, conformed to regional trends, though with some key exceptions which demonstrated the abilities of local communities to respond to broader changes in practice on their own terms. 'Local' is of course, a relative term (Barrett *et al.* 2018, 18). I am largely using it here to refer to the community using one cemetery. All too often, cemeteries are studied in isolation, and nearby settlements were either unknown, or had no clear associations with cemeteries. In this sample, only the settlement associated with Mucking could be definitively identified. In some cases, there may have been multiple social groups within one cemetery, especially on some of the larger sites. For example, Sayer (2013b, 157) suggests that the cemetery of Oakington was used by at least two social groups who had minimal involvement in each other's funerals. The same was also observed in Altenerding in Bavaria (Hakenbeck 2011, 116-117). Nor can we be sure that each community would have used only one cemetery. 'Local scale' is therefore not necessarily even represented by one cemetery.

A consideration of the local requires us to think about 'glocalisation', in contrast to globalisation which was discussed in Chapter 2. Glocalisation can be defined as the way in which practices which are broadly shared across a wide area are modified according to local customs and beliefs, and the way the global is experienced through local factors (Hodos 2017, 6, Roudometof 2016, 401). Originally developed as a concept in business and marketing (Robertson 1995, 28), it has since become commonly used in sociology, and from there found its way into archaeology. While there is some debate about the extent to which this is a useful term (see Barrett *et al.* 2018), it suitably distinguishes the tensions between large and small scales in a way that globalisation alone does not. The global and the local are interdependent, and globalisation is not a process which completely overrides local practices; instead, global ideologies are tailored to local needs, which inform those global ideologies in the first place (Hodos 2010, 25, Robertson 1995, 26).The changing use of grave goods provides a means of understanding tensions between local and global customs, not just in a snapshot moment, but over several centuries.

Although the changes in grave good types in individual cemeteries to some extent reflect global and regional trends, in many ways they do not, suggesting that they were reflecting local constraints of identity, which were sometimes in keeping with broader constructions, but sometimes at odds with it; globalisation can cause otherwise disparate communities to come into contact in a way which encourages them to emphasise their differences (Hodos 2010, 23). The articulation of local identity is strongest when a local community becomes engaged in a

contest with its neighbours (Hodos 2010, 17). The trade networks discussed in Chapter 2 provides a medium for this increasing contact between early medieval communities. The presence of such local differences alone does not negate the theory that Europe in this period was becoming increasingly 'globalised'. Variability can still exist within the groups which otherwise identify as culturally one, and the shared practices which create a group identity are not identical replicas of practice from one particular place (Hodos 2017, 6). While the local is produced in global terms, this does not mean that the local is homogenised (Robertson 1995, 31).

The influence of the local can be seen particularly in the way in which some cemeteries do not follow regional trends, particularly when it came to the use of individual object types such as personal accessories. Although the communities using the cemeteries fell into line with their neighbours when it came to changing their overall use of grave goods, the way they chose to do so was dependent on the form that furnished burial rhetoric took on each particular site. Local identities could be created not just through the use of different types and styles of objects, but through the way in which they were used; for example, Hakenbeck (2011, 94) suggests that the way in which brooches were pinned provided local differences in costume which could subvert their regional meanings. Therefore even in objects which were used in the same way in both regions and individual sites may have been used slightly differently on a local scale.

The variations in changing gender expressions between cemeteries also demonstrate the ability of communities to adapt global trends to local circumstances. In the majority of sites where such a gendered change was visible, it was feminine graves which saw a steady decline, while masculine graves became more polarised. Two sites, Mucking and Altenerding showed the reverse, despite these sites being geographically distant, at opposite ends of the study area. This suggests that the way in which gender was created in burials was something which varied on a community level and despite the associations of different types of object with sex remaining broadly consistent across this entire area, the roles that different genders played was clearly something which differed. Many previous studies have emphasised that gender is something which is experienced, negotiated and constructed on the local scale, within local communities, and that there were multiple different ways of constructing masculine or feminine identities (e.g. Stoodley 1999, 89, Lucy 1998, 103, Haughton 2018, 67). Beyond the broader categories of gendered grave goods, cemeteries which were geographically close could vary considerably in the way gender and age was constructed through the use of grave goods (Halsall 2010, 326); for example, shears had a male

association at Chaouilley and in the seventh-century graves of Lavoye, but were found primarily with females in Dieue-sur-Meuse, and had no gendered association in Ennery or Audun-le-Tiche (Halsall 1996, fig 8.4), although this may be a product of small sample sizes. The way in which these associations changed over time also showed small-scale variations.

Dress accessories were a particularly important way of expressing regional identities, and this is particularly true of women's dress, which was much more elaborate than male costumes (Martin 2016, 71-2). Almost every cemetery saw a decline in the use of dress accessories in feminine graves, one of the most consistent trends. What this might suggest is a decline in the display of regional identities. This has already been demonstrated on a smaller scale; studies of both Anglo-Saxon England and Bavaria have shown a homogenisation of dress accessories and jewellery in seventh-century graves, which could be interpreted as an expression of a larger-scale national identity (Geake 1997, 126, Hakenbeck 2011, 142). As a product of increasingly globalisation, the emphasis on regional identities through specific dress styles became less important, resulting in this decline, seen primarily in feminine graves because of their importance in the display of regional identities.

The majority of cemeteries, however, conformed to the regional trends. This suggests that while the expression of community identity through burial practice had the potential to take on local variations, it did so largely within an accepted regional framework, and extreme variation from this framework was rare.

5. Corporeality and Christianity

From the level of a community, I now want to narrow the focus even further and consider the immediate responses and the decisions which lead to the creation of a burial. Even the more sophisticated interpretations of funerary rites, such as expressions of social status, or the display of an idealised identity, view the funeral as essentially functional. However, in the emotionally charged atmosphere following a death, people's immediate responses were unlikely to have been to try and maintain or overthrow social conventions, even if this were an unintended consequence of the ritual they carried out; instead, their actions were likely to have been more emotionally driven (Tarlow 1999, 20-23), if bounded by certain conventions around funerary customs.

Although most of this thesis has focused on the use of grave goods, we cannot consider them in isolation; rather, they were part of an extended ritual which focused on, and was initiated by the appearance of a cadaver. The cadaver is more than just a blank canvas onto which the funerary ritual is painted and in many cases it can be an active participant in the rite. The cadaver is the reason a grave is constructed, with or without accompanying objects, in the first place (Sofaer 2006, 19), and therefore the way the cadaver is perceived will have a great influence on how the funeral ritual, the grave, and the objects within it are structured. How the dead body is considered, in particular the extent to which it retains the personhood and agency of the living individual, is thus vital for understanding all other aspects of the funerary rite.

5.1. The Early Medieval Corpse

5.1.1. The Nature of the Corpse

Much of funerary archaeology has focused on what burials can tell us about the society in which burial takes place. While not an invalid approach, the idea that 'the dead do not bury themselves' has become overused to the point of cliché (Sayer 2010, 62, Williams 2004, 264). The predominance of this approach denies the presence of the deceased, and the influence they can exert (Sofaer 2006, 43). It implies that the corpse is an inanimate object, which is provided with grave goods solely for the benefit of the living. But the corpse can also be an active social agent, capable of owning the objects which need to accompany it in the grave. Many of the potential reasons for depositing grave goods with the dead assume some level of possession; it follows that if a cadaver is capable of possession, it has retained some of its personhood and agency, and is capable of playing an active social role on death.

In almost all societies, a corpse lies somewhere between a person and an object, and can fulfil both roles at once (Nilsson Stutz 2015, 3-4, Williams 2004, 264). Exactly where it lies on that

spectrum, though, varies between societies and can be debated. Within modern archaeological studies, there is much more of a tendency to classify skeletal remains as an object, a product of nature, and the subject of scientific studies (Sofaer 2006, 40). It is placed in the realm of the osteoarchaeologist, who studies it as a biological object to extract scientific information such as sex, age and pathologies, which are then used to interpret its cultural surroundings. This loses sight of the fact that the skeleton we excavate is not what was originally buried, and the fleshy, recently dead corpse is likely to have held quite different connotations (Graham 2015, 4). Although the dead body has undergone a fundamental transformation, it is still invested with memories and emotional attachments (Hallam *et al.* 1999, 131), making it a 'mnemonic tool' for the person they had been during life (Mui 2018, 191).

There are many societies in which the deceased are believed to continue to interact with the living following death (Williams 2004, 266). In the examples given above, the dead body, or part of it, acted as the focal point for a person, but this was not always the case. With the biologically dead, it is easier for personhood to become detached from the body (Hallam *et al.* 1999, 2). The personhood of the deceased can be lodged in the places where the final disposal of the remains occurred, but it can also become located in inanimate objects related to the deceased, or in the consciousness of mourners (Rugg 2017, 211, Hallam *et al.* 1999, 149). We therefore have to consider not just the extent to which the dead can remain socially alive, but the extent to which that social persona resides in the corpse. They also might not remain socially alive for all members of society; it is most likely to be close relatives who invite the dead to exert influence on their lives (Hallam *et al.* 1999, 149).

Therefore we should not dismiss the role of the corpse itself in the burial. Even if the 'dead do not bury themselves', this is an oversimplification of the complex relationship between people burying and the people being buried (Tarlow 1999, 177). The actions of the mourners are shaped by what they thought the deceased individual would have wanted, especially when the corpse is considered to be very much a person. The cadaver provided the 'focal point… at which mortuary theatre could be anchored and enacted' (Mui 2018, 208). When considering archaeological remains, we therefore have to remember that a biologically 'dead' person can still be socially very much alive.

5.1.2. Early Medieval Perceptions of the Corpse

The next question is how early medieval societies may have conceived of the dead. Some of the ways in which furnished burials were carried out suggest that the corpses retained some characteristics of the living. Nilsson Stutz (2008, 24) argued, based on the Mesolithic cemetery of Skateholm, that the body was seen as belonging to the realm of the living and that

rapid burial was a way of denying the reality of death, because bodies were buried quickly, before decomposition could occur, and were placed in positions in the grave which mimicked those of life, and new graves only very rarely cut into old ones. The same could be said of early medieval burials. Inhumations were also taking place alongside cremations, often in the same cemetery; the natural movements which occurred, and the sounds the corpse emitted as it burned could have led to a belief that the corpse was still capable of movement and speech (Williams 2004, 275). The phenomenon of bed burials perhaps imply the metaphor of sleep, again suggesting a denial of death (Tarlow 1999, 134-5; 2013, 620), though this was not a widespread rite. More commonly, body positions where one or both hands were raised to the face may suggest sleep, and children in particular tended to be buried in this way (Mui 2018, 139, 206). In other instances, the placement of the body in the grave mimicked a living, upright position, holding spears in positions where they could have been wielded, for example (Mui 2018, 212). This is not to suggest that the body was still considered physically living; preparing the corpse for burial included stripping, washing, and redressing it, and such close engagement with the dead body cannot help but have highlighted the stark differences between the dead and living body (Mui 2018, 203). Dunn (2013, 139-140) proposed that there may have been some pre-Christian belief in a 'free soul', which lingered near the body, and was not safely banished to the afterlife until after the flesh had decayed. Most furnished early medieval cemeteries show very little intercutting between graves, suggesting that even once decayed, there was still some element of personhood retained by the body in the grave. Certain deviant burials even suggest a fear of the dead rising to walk among the living, and steps were taken to prevent that. This includes examples such as prone burial, weighing the body down with stones, or amputation of the lower limbs, all of which may have been designed to prevent the dead body from returning to the world of the living (Reynolds 2009, 89, 93).

I would argue that the inclusion of objects in the grave alongside the body also supports this view of continued personhood of the deceased. Although there are many different reasons for incorporating grave goods into the funerary rite, as outlined by Härke (2014), many of these rely on the concept of possession. At least some of the objects placed in the grave were either owned during life, or were acquired as possessions through gift exchange on death. We have to assume therefore that the bodies which were being buried prior to the eighth century were socially alive and therefore that the funerary rites being carried out would have been dependent on how the dead would have wished to be treated.

There are hints, however, that this changed from the eighth century onwards, and that rather than being the locus of a socially active person, the body became more of an empty vessel, and the deceased's personhood was focused elsewhere. By the ninth century, graves were no longer carefully spaced to avoid each other, but new graves were frequently cut into old ones, suggesting that the preservation of earlier bodies was of little importance (Thompson 2004, 102). Some of the changes in the use of grave goods between the mid-sixth and the early eighth century could also be viewed as a change in the way corpses were perceived. One of the most conspicuous trends across the entirety of the analysis of funerary data has been the continued use of inseparable personal accessories longer than any other type of object. While personal accessories did decline along with other artefact types in some cemeteries, they still remained more consistently used than any other type of object. The objects which declined most strongly were inalienable objects such as weapons and dress accessories. If the focus of the deceased's personhood became detached from the corpse, this would have reduced the agency of the corpse to own objects. These more inalienable possessions were therefore less frequently placed in graves, but were instead kept within the community. However, the objects which were intrinsically a part of the body continued to be placed in graves as the bond between body and object was much harder to break, so much so that even when graves were reopened with the intention of removing objects, these ones were left.

Further evidence for this change in perception can be seen if we look at where objects were placed in the grave: when objects did move location, this was almost always a shift away from the body. Such changes were not visible at all sites; indeed only Pleidelsheim saw a wholesale movement of object away from the body. It was rare to see no such changes however. Only at Grande Oye, an otherwise unusually static site, were there absolutely no changes in where objects were being placed over time. The movement away from the body can be taken as further evidence of a reduction in the personhood of the corpse over time; although it was still important to keep these inseparable objects with the body, it became less and less necessary to lay out the grave in a resemblance of how the person would have appeared during life, with their dress and their personal objects related to the physical body in the same way a living person would have carried them. Although the links between body and inseparable object were still important enough that those objects were included in the grave, the need to lay out the body as it had been during life had lessened.

Eventually, however, even these most personal objects ceased being placed in graves. As part of the diffusion of this concept of separated personhood, unfurnished burial was only gradually adopted, and was experimented with before wholesale adoption. Given the emotive

nature of funerary rituals, they do not change rapidly without good reason. In order to explain this change, therefore, it is necessary to turn to the religious and cultural context in which this shifting perception was taking place.

5.2. The Influence of Christianity

Despite a shift away from Christianisation as a simple explanation for social and cultural change, it is impossible to ignore the potential influence of the Church. Christianity in this period was highly regionalised, and it was not until the eleventh century that the church as an institution was stable enough to be able to enforce consistency in belief and practice (Abrams 2008, 109). Yet this was a period in which the Christian Church began to extend its influence further over social life. The few historical documents which discuss death, funerals and the afterlife were all written from a Christian perspective; given that these were written from an elite, intellectual perspective, it is unlikely that they accurately reflect the beliefs of the majority of the populace, but they are nevertheless one of the few sources of written evidence. One potential explanation for the abandonment of furnished burial suggested by Effros (2003, 88), but which has received little further attention, is that there was a change in the way the afterlife was understood. The chief teaching of the Christian church was that life persisted after death, but the exact way in which life persisted was heavily debated, and the seventh century was a crucial turning point in that debate (Caciola 2016, 7), contemporary with the changes in funerary practice.

Christian writings on the afterlife were often contradictory, and it is difficult to say how much ordinary populations, particularly in rural areas away from the Christian centres, would have been aware of, and affected by some of these obscure theological debates (Effros 2002a, 60). Early Christian beliefs about the corpse have sometimes been characterised as a simple dichotomy between body and soul, but the reality is more complex (Harris and Robb 2013, 133). The body was clearly important in Christian theology, as it was believed to be resurrected and reunited with the soul on Judgement Day. The exact form this resurrection would take, though, and thus the importance which the body had, was debated (Harris and Robb 2013, 147, Thompson 2004, 196-7). Some communication between the living and the dead could take place in the case of saints, but the majority of the dead had no influence in the world of the living (Dunn 2013, 136).

In late antique perceptions of the afterlife, a great deal of attention was placed on the concept of bodily resurrection, alongside debate about exactly how that would occur. The general consensus seems to have been that the resurrected body was fundamentally different to the body during life: ‘it is sown a physical body; raised a spiritual body’ (*Paul’s Letters to the*

Corinthians 15.42-44, translation Caciola 2016, 28). Perhaps the most influential writer on the topic was Augustine of Hippo (354-430), who described the resurrected body as being reassembled from all the particles which made up the original body, but free from fluidity. Thus, although there was material continuity, the body of heaven was fundamentally different from the body of earth (Bynum 1995, 95-97). Even in the eighth century, inscriptions at graves suggested that the physical body still had an important role to play when it came to the Resurrection (Effros 2002a, 71). There was concern, however, about how exactly the Resurrection would occur. Gregory of Tours wrote that, 'even if a man were reduced to very fine dust and then scattered over the land and sea in the face of a keen wind it would still not be difficult for God to restore that dust to life' (*History of the Franks X.13,* translation Thorpe 1974). While the rest of his history takes a traditional narrative style, this particular passage was written in the form of a conversation between himself and one of his priests, who was doubtful of the veracity of the resurrection. Although unlikely to have been an account of a real conversation, it suggests the need to address more widespread concerns about the fate of the body, despite official teachings.

There is evidence for a belief in the separation of body and soul on death throughout much Christian writing. The third-century theologian Tertullian wrote that:

> *Some… choose to believe that some souls cleave to the body even postmortem… But not even a little bit of the soul can possibly remain inside a [dead] body, which is itself destined to disappear.*
>
> *Book on the Soul*, cols 736-38 (translation Caciola 2016, 39-40)

Sixth-century funerary prayers, written in southern Gaul by Bishop Caesarius of Arles, also imply a similar separation of body and soul; prayers speak of the contrast between the body which was laid to rest in the earth, and the soul, which joined the congregation of the faithful in heaven (Paxton 1990, 54). In the same period, Gregory of Tours wrote that 'that sort of preoccupation [on worldly matters] has no place in a body which is dead, for the spirit has left it' (*History of the Franks X.13,* translation Thorpe 1974), again showing the separation of body and soul. The Anglo-Saxon Vercelli homily, dating to the late tenth century names three points of death, one of which is when body and soul part (Thompson 2004, 49). Gregory the Great argued in his Dialogues that the physical changes to the body on death were proof that the soul had departed from it (Caciola 2016, 50).

> *If you take away the power invisibly present in the body, very soon all that visible mass of materials, which you saw moving, comes to a standstill. From such observations, we begin to realise that int his visible world, too, nothing can be achieved except through invisible forces.*
>
> Dialogues IV.5 (translation Zimmerman 1959, 199)

One sermon complained about the custom of offering food and drink to the dead: 'they confer drink and wine over the tombs of the dead, as if the carnal souls, having exited from the bodies, required drinks' (Effros 2002b, 75). Under Visigothic laws, any objects stolen from a grave were to be returned to the heirs, not the grave itself, indicating that the ability of the dead to own objects was not something which persisted beyond the burial itself (Effros 2002a, 51). All this evidence shows very clearly that the dead body under a Christian framework was not the person it had been during life; the locus of personhood, the soul, had become disembodied. The corpse did not require sustenance in the way that the body as a person would, it could not own objects and had no social capacity. The body was still important for its potential to be resurrected, but it was not the embodiment of the person, and due to God's ability to reconstitute the body, its preservation was not important.

Yet beyond this official narrative are hints that among the general population, and even among some clergy, the body continued to hold importance beyond its potential for resurrection, and that something of the person remained attached to the body. Tertullian used the metaphor of sleep to talk about the dead, suggesting that the continuation of living characteristics in cadavers was pervasive (Caciola 2016, 42). His writings were not designed to voice a widely held consensus, but as a polemic against widely spread contemporary belief that something of the soul remained with the cadaver even after death (Caciola 2016, 39). The fact that Gregory of Tours and Gregory the Great were voicing similar arguments in a similar polemic style three centuries later suggests that Tertullian's efforts were not effective in shifting popular opinion. Even the tenth-century Vercelli homily suggests that as death shuts down the body, it imprisons some kind of awareness within it, which is capable of experiencing the horrors of the grave, though allowing the corpse some degree of consciousness is not quite the same as allowing it agency (Thompson 2004, 49-50, 52). Likewise, the late Anglo-Saxon *Soul and Body* poem recounts a tale of the damned soul returning to its body every seventh night to complain of its behaviour during life. Thus the soul retains a link to the body, even if only a partial one, and implies that the corpse is aware (Thompson 2004, 140-142).

Another aspect of Christian practice which contradicts this official narrative of body and soul separation is the veneration of bodily relics of saints. The bodies of saints maintained a connection to their souls even after death, which allowed them to maintain a presence in the world of the living (Krueger 2010, 5). Through this connection, these corpses could sanctify churches, enact miracles, and generally make their presence felt, even when fragmented. The veneration of saints arose from popular act of piety, and was something which defied theological explanations; some clerics dismissed their worship as sacrilegious, and even Gregory the Great was concerned about how to reconcile the power of relics with beliefs in the separation of body and soul (Bynum 1995, 92, Krueger 2010, 7-8). The bodies of saints broke normal rules of a body-soul dichotomy precisely because they were favoured by God (Geary 1994, 201). They are therefore a special exception to the rule, rather than a direct contradiction of it.

Christian writings also contain stories of the dead returning to the world of the living. Sometimes these were malevolent revenants, but in other cases they simply behave as the living do, as in the case of the tenth-century tale from north Germany, where a priest finds a group of dead parishioners holding their own mass in the church (Caciola 2016, 126). In a Christian context, though, deviant burials may also take on an alternative interpretation, one of penitence, and we should be careful not to assume that prone burial always represents a fear of revenants (Toplak 2018, 89). It is also clear that revenants were an abnormal type of dead body, and increasingly Christian writers attempted to explain them not as true examples of the risen dead, but as the work of demons (Caciola 2016, 152). These attitudes are not representative of normal understandings of the dead body.

A belief in some sort of awareness of the body thus persisted well into the tenth century, at least in England. The seventh century, however was a pivotal point in Christian perceptions of the afterlife, and when much more emphasis began to be placed on how a soul achieved heaven (Brown 2006, 257). Late sixth- and seventh-century writers, such as Gregory the Great and Isidore of Seville placed more emphasis on the transformation of the corpse through funerary ritual. Isidore in particular suggested that an unburied corpse was fundamentally different from a buried one, and that the funeral was necessary to fully separate the soul from the world of the living (Caciola 2016, 60-61). This emphasis on the funeral itself was a new development, drawing greater attention than previously to the way the corpse was buried, and the importance of the correct rites for achieving the afterlife. Gregory the Great's writings marked a significant change, emphasising judgement immediately following death, not just at the final resurrection (Effros 2002a, 162), and the entirety of Book IV of his

dialogues was dedicated to discussing the fate of the immortal soul. He restates forcefully the separation of the soul from the body on death:

> *The spirit clothed in flesh but not destined to die with it, is the human spirit…His spirit shares immortality with the angels, and with animals he is doomed to a bodily death, until the day when a glorious resurrection will swallow up mortality and the flesh will cling once again to the spirit to the spirit to be preserved by it for all eternity.*
>
> Pope Gregory I, Dialogues IV.3 (translation Zimmerman 1959, 192)

This belief in the intermediary stage of purgatory was not officially approved doctrine until the late twelfth century, but certainly became more prominent from the seventh century onwards (Thompson 2004, 6). Prior to this, funerary liturgies focused on the rewards which Christian souls would receive in the afterlife, whereas afterwards, the suffering of unworthy souls became a more prominent feature of those liturgies (Effros 2002a, 169-70). Mass also played an increasingly important role in commemorating the dead (Paxton 1990, 66). Thus at the same time as grave good use was significantly declining, church writers were increasingly vocal about the fate of the soul, and how best to provide for its afterlife.

This is not to say that the dead lost their identity and social role under a Christianised framework. The living and the dead were bound together in the early medieval period by obligations of gift exchange; in return for the inheritance left by the dead, the living were required to respond with prayers, to maintain a benevolent relationship (Geary 1994, 69-70). Gregory's dialogues do allow for the continued agency of the dead, and he recounts many tales of souls continuing to inhabit the world of the living (Caciola 2016, 52-56). Crucially though, even though some of these 'ghosts' appear corporeal, they are the spirit made solid, not a reanimated corpse. The focus of the deceased's identity is not their body in the grave, and when the dead appear to interact with the living, often to deliver warnings, they do so through visions (Geary 1994, 84). This way of understanding death was particularly important during a period of conversion, as it provided proof of a Christian afterlife. However, following the period of active conversion, Gregory's understanding of the afterlife became less popular, and the use of the Augustinian model of strict separation between the living and the dead came to dominate Church thinking again (Caciola 2016, 65). Thus although the dead had an active social role, even after the seventh-century reforms, their identity was not located in their body.

The way people understand death is often full of inconsistencies, with people able to hold several competing beliefs about the fate of the soul at once (Tarlow 1999, 47). This can combine official theology with superstition and folklore, creating a mix of beliefs which is not necessarily internally consistent (Tarlow 1999, 103), and the mixture of beliefs about the dead body in the early medieval period support this. The observed changes in funerary practices in several cases began before the seventh-century watershed, but gained momentum following it. This could indicate that Gregory the Great's rhetorical methods had more impact than previous attempts at persuasion, but it could also suggest a greater concern among the general population about mortality and matters of the afterlife. From the mid sixth century onwards, Europe was affected by climatic disruptions in the form of the 'dust-veil' event of 536, and the Late Antique Little Ice Age, which is suggested to have led to a reduction in population due to reduced agricultural productivity (Gräslund & Price 2015, 431). This was followed by further mass mortality in the form of the Justinianic Plague, which first reached Europe in the 540s, was followed by repeated outbreaks until 750. Thus there was an increase in mortality, which may well have affected popular perceptions of the nature of death and the corpse.

5.3. The Justinianic Plague

Changes in doctrine and legislation alone are unlikely to instantly change the beliefs of society as a whole or affect the emotional responses of the living towards the newly dead (Tarlow 1999, 82), even if the general populace were following these theological debates in the upper echelons of the Church. However, something which could have affected attitudes towards death, across large parts of Europe, and yet has been relatively overlooked in studies of the early medieval period, is the Justinianic Plague. This may have been linked to the Late Antique Little Ice Age, a cold period triggered by volcanic eruptions spanning the period from 536 to 660, which provided better environmental conditions for the spread of disease-carrying fleas. (Büntgen *et al.* 2016, 231, Harper 2016, 126).

No discussion of social change in the fourteenth century would be complete without at least a mention of the Black Death. Why, therefore, social change in the sixth to eighth centuries should be explained with barely a mention of the Justinianic Plague is baffling. Widespread mortality, or at least the fear of mortality, could have affected perceptions of death and corpses, which made theological teachings more relevant, and also affected the theology itself.

The Justinianic Plague was first recorded in Egypt in 541, and from there spread quickly, reaching Byzantium in 542, Gaul in 543, and Ireland in the years 544 and 545. It periodically returned in these regions for two centuries, with more serious outbreaks affecting Gaul in the

570s. There were only minor outbreaks following the 680s, and the last recorded incidence occurred in 751 (Little 2007, 3, 25, Maddicott 2007, 206). It appears to have been most prevalent in the sixth century, with few recorded incidences between 600 and 660 (Harper 2017, 238), but this could be partially due to the nature of the sources; the most prolific chronicler for the Frankish world was Gregory of Tours, who died in 594, and the seventh century is notorious for its dearth of historical sources (Maddicott 2007, 173). Only in Ireland do chroniclers record seventh-century outbreaks more thoroughly than sixth-century ones (Dooley 2007, 219). Gregory's accounts largely relate to the south of Gaul, rather than the north, however. The following is one of his fullest descriptions of the impact of the plague, in Clermont-Ferrand, a town in south-central France:

> *When the plague finally began to rage, so many people were killed off throughout the whole region and the dead bodies were so numerous that it was not even possible to count them. There was such a shortage of coffins and tombstones that ten or more bodies were buried in the same grave. In Saint Peter's church alone on a single Sunday three hundred dead bodies were counted.*
>
> History of the Franks, IV.31 (translation Thorpe 1974)

The evidence for its outbreak in England is sparser than the continent. The only historically recorded evidence for the plague is from Bede, who recorded major outbreaks in the 660s and 680s, with periodic outbreaks in-between (Maddicott 2007, 171-172). In comparison to Gregory's accounts, however, Bede gives much less detail. High mortality is still implied, but in a much more cursory manner.

> *There suddenly arose in those parts a most grievous pestilence, and brought with it destruction so severe that in some large villages and estates once crowded with inhabitants, only a small and scattered remnant, and sometimes none at all remained.*
>
> Bede, Life of Cuthbert XXXIII (translation Colgrave 1940, 259-261)

There are no historical records of sixth-century outbreaks comparable to those of the continent and Ireland, but it has been speculated that, given the virulence of the plague, it is likely to have spread from Ireland to England at a similar time (Maddicott 2007, 175). This has recently been confirmed through the identification of *Yersinia pestis* DNA in sixth-century burials in Edix Hill (Robb pers.comm.), showing that the mid-sixth-century outbreak did affect Anglo-Saxon England. While the written records for the outbreak of plague are

typically brief, and Gregory of Tours in particular can be seen as employing a literary device intended to emphasise the importance of correct Christian practice (Mordecai & Eisenberg 2019, 8, 14), the growth of aDNA as a source of information has demonstrated that the written records underestimate the extent of the plague pandemic, at least in terms of geographic spread, if not in terms of mortality.

Increasingly aDNA evidence is being used to identify the presence of *Y. pestis* in cemeteries in areas where there was no historically recorded presence of plague. *Y. pestis* DNA has now been identified in multiple sixth-century burials, in the Anglo-Saxon cemetery of Edix Hill (Keller *et al.* 2019), Bavarian cemeteries of Aschheim (Harbeck *et al.* 2013, Wiechmann and Gruppe 2005), Altenerding (Feldman *et al.* 2016), Dittenheim, Petting, Unterthürheim, and Waging (Keller *et al.* 2019), and the mass grave of Sens in northern France (Drancourt *et al.* 2004), although there is. The grave at Altenerding dates to phase F3 in Hakenbeck's chronology, between 530-600, and radiocarbon dating suggests that the burial occurred no later than 571, and the two graves 166 and 167 at Aschheim were dated to the second half of the sixth century (Wiechmann and Gruppe 2005, 48). While radiocarbon dating placed the mass grave at Sens in the fifth to sixth century, the exact dates were not published in the report. Looking at fig. 204, there is a significant gap between the Bavarian sites with DNA evidence of plague, and the nearest recorded outbreaks in Trier and Reims to the west, and Grado and Verona to the south. This suggests that the intervening regions must also have been affected by plague, and the more likely route of transmission is east along the River Danube, rather than coming north over the Alps from Italy; it is therefore reasonable to assume that Alamannia was also affected by plague, although there is currently no direct evidence for this.

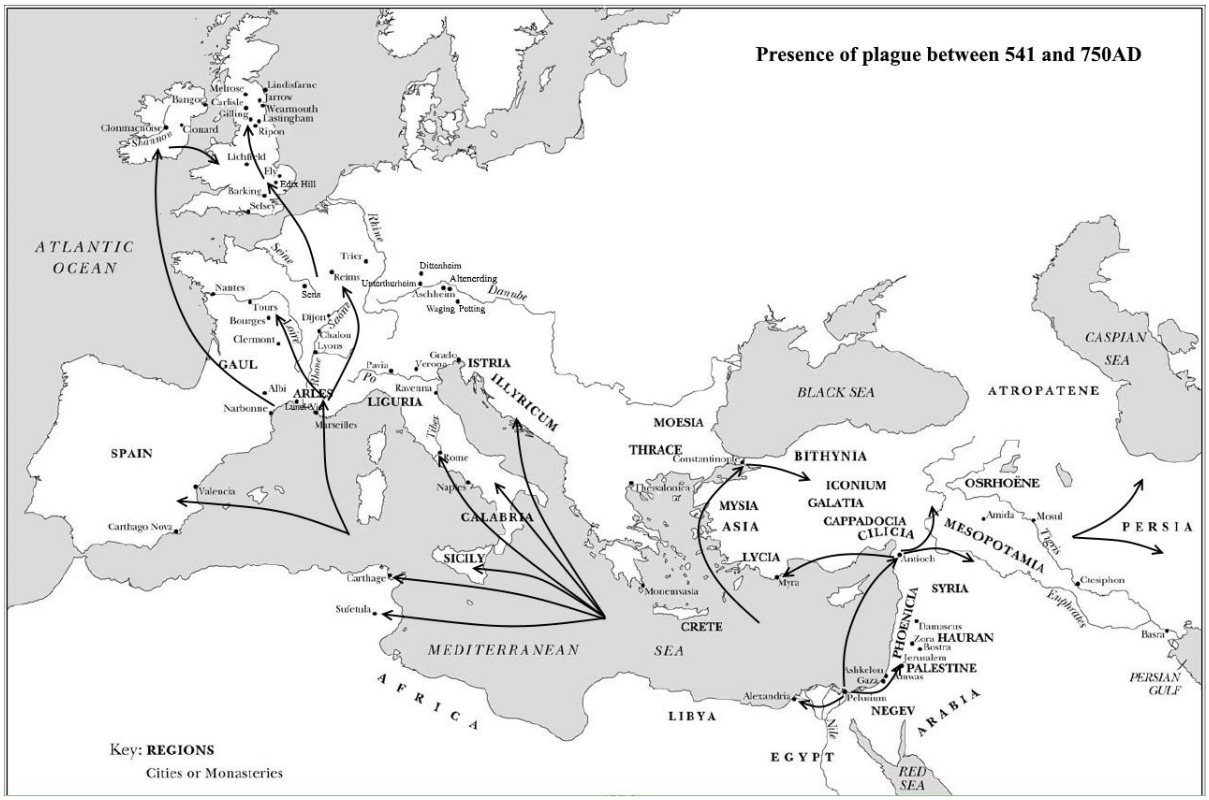

Figure 204: The spread of plague across Europe and the Near East. Based on Little 2007, Plague and the End of Antiquity, xvi-xvii, reproduced with the permission of Cambridge University Press © Cambridge University Press. Additional sites added on the basis of Feldman et al. 2016, Drancourt et al. 2004, and Keller et al. 2019, and additional routes of transmission added on the basis of Horden 2005, Maddicott 2007 and Dooley 2007.

Thus far, little work has been done to investigate the mortality and wider social impact of plague, beyond its presence. There is little clear archaeological evidence suggesting any sort of disruption associated with the outbreak of plague (Hines 2017, 10; Mordecai *et al.* 2019). Very few mass graves of the period have been identified which could feasibly be linked to the plague, and these are limited to mostly urban areas, but there was an increase in mass burials during the sixth, and especially the seventh centuries (fig. 205). In rural areas with lower populations, levels of deaths were more manageable, making a few multiple graves necessary, but otherwise normal rites could continue (McCormick 2015, 333-337).

Figure 205: Incidences of mass graves in former Roman provinces by century (McCormick 2015, 356)

Mortality estimates are difficult, but it is suggested that the plague perhaps killed 20 to 30% of the population (Horden 2005, 147, 154), while in dense, urban areas, mortality rates could have been even higher; one estimate from Byzantium puts the mortality rate at 57% (Allen 1979, 11). Analysis of the cemetery of Aschheim, which shows that all of the multiple burials from the site date to one of the known waves of plague, suggested that even this small rural community might have lost 35 to 53% of its population (McCormick 2015, 345-6, 355). Others have been more critical of this 'maximalist' view, arguing that neither historical nor archaeological sources support large numbers of deaths (Mordecai & Eisenberg 2019, Mordecai *et al.* 2019). Even if the plague did not cause widespread mortality, it could still have led to depopulation; Paul the Deacon records the Italian countryside being left void, as people fled in terror, and Bede also mentions depopulation in England (Maddicott 2007, 198). It is possible in England to see the decline of many settlements in the seventh century, and while Hamerow (1991, 17) attributes this to population mobility, Maddicott (2007, 201) suggests it could be a result of depopulation following the pandemic. The long-term effects were probably minimal, though, and the population recovered relatively quickly (Maddicott 2007, 205).

The potential cultural effects of the plague may have been longer lasting. One of the most significant impacts seems to have been the intensification of religious belief, including Christian, but also in some instances, a reversion to non-Christian belief systems (Little 2007, 27). In Byzantium, the Cult of the Virgin Mary increased in popularity from the mid sixth century, as did the practice of venerating images, and religion occupied a more significant role in social life, because the failure of old practices to adequately protect against plague led people to seek new forms of protection (Meier 2016, 285-8). In western Europe, the plague hit at a particularly vulnerable point in the progress of Christianity, and although many of the areas affected were nominally Christianised, the conversion process in England, Bavaria, and potentially many rural areas was still in its early stages (Stocket 2007, 136-7).

Aside from a temporary increase in multiple graves to accommodate multiple people dying at the same time, the widespread presence of plague may also have had more long-term impacts on the way people thought about death, which could then have affected burial practices. For example, Harper (2017, 118) argues that there was a new stoicism towards death evident in the writings of Marcus Aurelius following the Antonine plague of the second century, and that following the Justinianic plague, there was a tendency towards apocalyptic thinking (Harper 2017, 249). It has been suggested that repeated outbreaks of plague encouraged acceptance of Christian teachings of death, but also that Christianity in the same period

adapted its teachings to account for popular intuition about death (Dunn 2013, 154). While we may not be able to reconstruct the exact thought processes of people who lived through mass mortality incidents, it would be reasonable to assume that such circumstances would have a significant effect on people's relationships with death.

The changes seen in the use of grave goods correlate well with incidences of the Justinianic plague. The mid sixth century is when grave good use in many individual cemeteries began to decline (see fig. 161 in chapter 4), and when declining grave good use in England first became visible through the abandonment of cemeteries. This coincides with the first presence of the plague on the continent and in England in the mid sixth century. The second key point was in the 680s, when almost all of the furnished cemeteries in England were abandoned, and the same process on the continent rapidly accelerated; this coincides exactly with the second wave of plague which affects England in the 680s.

There is a clear chronological correlation, but this alone is not enough to argue that the plague caused the change. It is not the case that plague victims were buried 'carelessly' and without grave goods, as is often assumed in cases of epidemics. It has been suggested that a group of Lombard prone burials, weighed down with stones and buried with crosses, may have been victims of the plague, who the living feared would return to infect them (Dunn 2013, 152). Yet there is no indication of deviancy in the burials where plague has been identified, and their normative treatment suggests that there was no such fear of the dead; plague-victims, both living and dead, were treated in the same way any other sick person would have been (Gutsmiedl-Schümann *et al.* 2017, 416). The burial identified from Altenerding, individual 1175, was in fact one of the richest burials in the site, and was buried with brooches, buckles, a necklace, an arm ring, a chatelaine, keys, and a knife. Those of Aschheim were also furnished in the expected manner, with only the fact that they were multiple burials making them stand out as anomalous (Gutsmiedl-Schümann *et al.* 2017, 412). The mass grave at Sens was more atypical, containing no grave goods, which led to an initial assumption of a ninth- to eleventh-century date before radiocarbon dating was carried out (Castex 2008, 28). At Edix Hill, *Y. pestis* DNA was also identified in single burials, in graves which did not stand out in any way. It was also one of the few sites where there was no decline in grave good use over time, despite it being the only English site where Justinianic plague has yet been identified.

We thus cannot argue that the presence of plague directly caused the use of fewer grave goods. What I would argue instead is that the widespread incidences of plague affected the way in which the living thought about, and related to the dead, and that the turn towards religion suggested by Dunn, Little and Meier meant that more and more people became both

aware of, and concerned by, the contemporary theological debates about the nature of death. I do not wish to imply by this a top-down imposition of beliefs from intellectual theologians to the ordinary populace, and as discussed above, there were clear tensions between the theological narratives, and actual practices, which were lessened by the eighth century, but still existed.

The constant presence of plague may have impacted on those theological debates as well. Gregory the Great gained the papacy after his predecessor, Pope Pelagius II, fell victim to a wave of the plague when it hit Rome in the 590s (Little 2007, 11). He believed that the end of the world was nigh, and this will undoubtedly have influenced his writings on the afterlife (Harper 2017, 246). An address by Pope Gregory, recorded by Gregory of Tours, shows a clear preoccupation with the ongoing epidemic:

> *I see my entire flock being struck down by the sword of the wrath of God, as one after another they are visited by sudden destruction. Their death is preceded by no lingering illness, for, as you know, they die before they even have time to feel ill. The blow falls: each victim is snatched away from us before he can bewail his sins and repent… Our fellow-citizens are not, indeed, taken from us one at a time, for they are being bustled off in droves…Every one of us, I say, must bewail his sins and repent, while there is still time for lamentation.*
>
> History of the Franks, X.I (translation Thorpe 1974)

Despite this, there was no particular sign from any of Pope Gregory's spiritual writings of a crisis of faith as a result of the plague (Markus 1997, 5). However, it did feed into a general belief that the Day of Judgement was drawing near, a belief fed not only by the constant outbreaks of plague, but also by famine and political instability (Markus 1997, 53). Climatic disruption caused by the Late Antique Little Ice Age fed into broader concerns about the impending Day of Judgement.

> *For, with the end of the world approaching, it seems that the openings to hell are enlarged in order to receive the great number of lost souls who will be gathered there to be cast into eternal punishment.*
>
> Pope Gregory I, Dialogues IV.36 (translation Zimmerman 1959, 236)

Penance on the deathbed was an important part of the Christian funerary rite, but the virulence of the plague made it increasingly likely that individuals would die before this could be completed; this may have been a motivating factor in the greater emphasis placed on masses for the dead and purgatory after this period (Dunn 2013, 154-155). There is evidence from other contexts of events of mass death causing increased introspection on matters of death and circumstances of burial. Following the outbreaks of plague in fourteenth-century Italy, for example, evidence from wills suggest that people increasingly specified their burial locations, rather than leaving it to heirs to decide, as had previously been the case, and commissions for chapels rose dramatically immediately following the 1363 outbreak (Cohn 2012, 988). The presence of mass death in a society inspired the general populace to pay closer attention to what may occur on death, and plan for it.

I am therefore not arguing for a direct causal relationship between plague and changing burial practice. The gradual nature of the change does not support this, as it does not support any attempt to link such a marked social change with one causal factor. It is important to note however, that pandemic was a constant presence in the lives of those who did begin to bury their dead in a different way. Despite several recent publications advocating for relatively low mortality rates for the Justinianic plague, on the basis of proxies such as coin evidence, and the pollen record (Mordecai *et al.* 2019), as well as a critique of the written evidence (Mordecai & Eisenberg 2019), mortality does not have to be overwhelming, nor the demographic impact long lasting, for a disease to inspire fear (Green 2019). I would argue that the constant presence of serious epidemic disease inspired more reflection on the general populace on the nature of death and the afterlife, prompting the theological discussions of elite churchmen such as Gregory the Great to become more widely distributed amongst the general populace than might otherwise have been the case.

6. Conclusions

6.1. Summary

By looking at the transition from furnished to unfurnished burial as a continent-wide phenomenon, this thesis has broken away from regionally specific explanations for funerary change which had previously dominated discussions. The transition from furnished to unfurnished burial did not occur only in small regions; it was a broad, sweeping change which affected much of early medieval Europe, and needs to be studied as such in order to truly understand the causes, and implications, of such a change.

Every region studied as part of this thesis had, in the sixth century, some level of furnishing present in graves, though levels of furnishing and types of objects provided varied between regions. Much of Frankia was distinguished by very high vessel use, something which was only included in a minority of graves in other regions. Personal accessories were commonly used everywhere, but particularly dominated the funerary rite in Anglo-Saxon England. Animal remains were common across Thuringia and Alamannia, but were more rare further west. However, by the end of the eighth century, the practice of furnished burial had been all but abandoned. The way in which different types of material culture were used in the funerary ritual varied across Europe, suggesting the creation of, and identification with different groups, although it is questionable whether or not these could be described as 'ethnic' groups. My analysis has necessarily taken place at a broad level, and more in-depth studies which further split the broad artefact categorisations I used, and analyse in more detail how those objects were used in a grave tableau, may reveal more subtle distinctions in identity at multiple smaller scales. The consistent use of unfurnished burial across a wide area represents only one aspect of cultural unity, emerging perhaps initially in beliefs about the Christian afterlife, but the act of standardised, unfurnished burial can by itself create a sense of shared identity through practice, distinct from its Christian associations. This is not to imply that such an identity would have been recognised as 'European', nor that its emergence meant the complete erosion of the pre-existing, smaller-scale group identities. Other aspects of the funerary ritual continued to vary, and variability in body positions in fact increased at the same time as grave good use was declining (Mui 2018, 142-3), although it is unclear if this continued to be the case after the eighth century. Variability in the choice of cemetery location, whether associated with a church or not, in a settlement or outside, or in some as yet archaeologically invisible location, were aspects of the funerary rite by which the identity of the deceased could also be expressed. Yet the strong sense of regional identity demonstrated by differential grave good use was slowly eroded over the course of the seventh and eighth

centuries, leaving a much more standardised rite behind and providing a point of cultural similarity across Europe.

This homogenisation of burial rites did not appear from nowhere, and the rapidity with which the change spread suggests that different parts of Europe were already bound by close cultural, economic, and religious ties. There was a steady decline in grave good use from the mid sixth century onwards, followed by a period of rapid acceleration towards the end of the seventh century, so that not only grave goods, but also the cemeteries in which they had been commonly used, were abandoned on a mass scale. Not all regions participated equally in this network, however; Kent and Western Frankia formed a more conservative region, which retained the custom of furnished burial until the surrounding areas had almost entirely abandoned it. This emphasises the political and cultural links between Kent and the Frankish world in the early medieval period.

The abandonment of furnished burial can tell us not only about the sense of identity created among the living, but also about the relationships between the living and the dead. The way in which grave goods change suggests a changing perception of the corpse, from being a person who still retained some of the identity and agency of the living, to being an object from which personhood had largely departed. Inalienable possessions, things such as dress accessories and weapons, were some of the first to stop being deposited in the graves, but inseparable possessions, the objects which were much more associated with the body rather than the person, only declined in use towards the end of the transition. However, even these objects were increasingly placed away from the body than directly on it, suggesting that their inclusion was becoming a token gesture rather than a highly meaningful expression of identity.

If we take networks of cultural contact as the means by which the custom of unfurnished burial diffused, and changing perceptions of the corpse as an explanation for the change, the question still remains as to what the initial impetus was. The answer to this may lie in contemporary events, such as the Justinianic Plague, which sparked mass mortality, and may have prompted greater reflection on Christian perceptions of death. Christianisation had little initial impact on burial practices, and some of the early changes, the adoption of church burial for example, were more an expression of status than religion. However, a sharpened focus on Christian teachings on the separation of body and soul led to an understanding of the corpse as more of an object which did not require grave goods, rather than a person which did.

This is not to say that the transition was entirely inspired by religious concerns; rather that conditions emerged through a combination of a mortality crisis and existing networks of contact, which allowed the religious concerns of a select few to be disseminated more widely. Many people may not have been consciously aware of the changes they were making. Rather as the use of unfurnished burial became more common, it gained momentum as more and more people imitated changing social norms. This is not to deny those people agency; local communities chose to adopt unfurnished inhumation in a variety of different ways, which were influenced by existing norms of practice, but also with the potential for outright rejection of such changes. Post eighth-century burials were also not carried out with less care than earlier ones. The corpse was viewed as more of an object, but it was still attributed a special significance by virtue of having once been alive. Nevertheless, an important element of the variability of the funerary rite was abandoned, which strengthened both the influence of the Church over areas of everyday life, and the cultural connections across different parts of Europe.

The abandonment of furnished burial was a complex process, caused on one level by the greater influence of Christian beliefs about the body and soul following mass mortality, and on the other by imitation of new social norms without there necessarily being an awareness of those initial causes. It is evidence of changing relationships between the living and the dead as a result of the permeation of Christian ideas throughout society, as well as being evidence of the level of cultural connectivity across early medieval Europe.

6.2. Future Research Directions

The scale of the study area was necessarily limited; however, as indicated in the introduction, the use of furnished burial, and its abandonment was not limited to the areas studied. Similar processes were also evident in Lombardic Italy and Visigothic Spain (see Chapter 1), both of which were undoubtedly in contact with the regions discussed in this thesis and were a part of the same ‘globalised’ European network. Time, the availability of high-quality excavation reports, and linguistic ability prevented these regions from being included here, but a comprehensive study of the emergence of European identity through burial practices would include them. Western Britain has also not been considered in this thesis, despite clear evidence for contact, particularly in the form of Irish missionaries, and suggestions that West Saxon burials were heavily influenced by those of Cornwall. Incorporating the contemporary changing funerary rites in Ireland, Scotland, Wales and Cornwall would also provide a clearer picture of how cultural exchange networks in early medieval Europe functioned, especially in areas where funerary rites differed.

Also of interest are the regions of Europe where the abandonment of furnished burial practice was not contemporary. Thuringia has already been touched on in Chapter 2, where certain categories of object, such as jewellery, personal accessories, and animal remains, continued to be deposited in graves until well after the eighth century, although more careful analysis of burial chronologies is needed to confirm this. In Scandinavia too, furnished burial persisted for far longer, including in sites such as Birka, Hedeby, and Kaupang, which are well integrated into the trade network which connected the rest of Europe (Sindbaek 2007, 70). There are some indications of alteration in burial practices which are contemporary with those seen further south; at Birka, the appearance of inhumation graves, spatially separated from cremation graves is interpreted as an introduction of non-local burial customs (Kalmring 2016, 207), but this is something which is in need of further study.

One of the key issues is the reliability of the chronologies on which this research is based. In particular the absence of accurate dating for unfurnished burials within furnished cemeteries, and for many entirely unfurnished cemeteries, means that all of the patterns observed throughout this thesis are to some extent a distortion of the true chronology of the change. More widespread use of radiocarbon dating targeting those unfurnished burials is required to rectify this. Alongside this, more research into church cemeteries is needed. The nature of the transition from field to church cemeteries is difficult to assess, partially because the length of time for which church cemeteries were in use meant that the earliest burials were heavily disturbed. Nevertheless, more consistent radiocarbon dating to identify those earliest burials, as well as more consistent radiocarbon dating of unfurnished field cemeteries will help refine our understanding of the choice of burial ground.

Additionally, some important trends were indicated in the case-study cemeteries which would benefit from further study at a broader level; namely the trend for objects to be placed further away from to body over time, and the predominance of one gender in the decreasing use of grave goods, while the other gender continued to use them at a consistent level. Although other trends confirmed that the case studies were usually representative of regional patterns, there were nonetheless many small-scale variations which suggest greater flexibility. Investigating both gender and object placement at broader scales would allow a greater understanding of how the local and the regional relate, as well as providing an insight into different gender roles across the early medieval world.

This thesis has focused on one aspect of funerary variability, the use of grave goods within furnished inhumations. The decision of how many, and which grave goods to include within a burial was only one of many decisions which could have been made around the burial. Other

aspects include how large, and what shape to dig the grave, whether to place the body in a coffin or other wrapping, how to position the body, and whether or not to mark the grave with a mound, or a stone monument. There were other, more ephemeral aspects of the funerary rite, which cannot be uncovered archaeologically, surrounding the preparation of the body, and the rituals surrounding the burial itself. Later medieval burial varied in all of these features, and much recent work has demonstrated such variation in the use of stone settings, coffins, and charcoal within burials. This is not to say that post-eighth-century Europe shared a common funerary practice through which a common European identity was constructed; rather the increased standardisation in this one area of funerary rites illuminated the networks of connectivity which bound disparate, but complimentary cultural areas together.

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Appendix 1: Site Catalogue

1.1. Basic Information

Cemetery	Latitude	Longitude	Start Date	End Date	Church Present?	Region	Reference
Addingham	53.9333	-1.8833	660	1020	Yes	Northumbria	Adams 1996
Ailcy Hill	54.1167	-1.5167	560	990	No	Northumbria	Hall & Whyman 1996
Alach	50.9833	10.9333	570	650	Yes	Thuringia	Timpel 1990
Aldingen	48.1	8.7	450	500	No	Southern Alamannia	Schach-Dörges 2004, Scholkmann 1981
Altenerding	48.3	11.9167	450	675	No	Bavaria	Sage & Helmuth 1996
Alton	51.13	-0.98	450	595	No	Saxon regions	Evison & Allen 1988
Ammern	51.2333	10.45	600	720	No	Thuringia	Timpel & Spazier 2014, 126-127
Apple Down	50.93	-0.9	510	650	No	Saxon regions	Down & Welch 1990
Arlon	49.6833	5.8167	535	700	No	Eastern Frankia	Roosens & Alenus-Leclerf 1965
Arrentières	48.2627	4.7432	560	710	No	East Frankia	Desbrosse-Degobertière 2010
Aschheim	48.1667	11.7167	550	950	No	Bavaria	Dannheimer & Diepolder 1988
Aubing	48.1667	11.4167	450	675	No	Bavaria	Dannheimer 1998
Aux Sarrasins (Evans)	47.1789	5.7681	550	675	Yes	Burgundy	Bonvalot 2003
Bad Mingolsheim	49.22	8.65	570	680	No	Northern Alamannia	Schafer 2005
Banneville-la-Campagne	49.172	-0.2253	500	610	No	Normandy	Hincker & Mayer (2011
Barbing-Irlmauth	49.0167	12.1667	500	550	No	Bavaria	Koch 1968, 173-183
Bärenthal	48.07	8.93	664	965	Yes	Southern Alamannia	Düring 2014

Bargen	47.88	8.77	590	720	No	Southern Alamannia	Koch 1982
Basel-Kleinhüningen	47.55	7.6	450	720	No	Southern Alamannia	Giesler-Müller 1992
Beacon Hill	51.6667	-0.9667	710	1160	No	Saxon regions	Chambers 1976
Beakesbourne II	51.25	1.1333	525	565	No	Kent	Richardson 2005
Beckery Chapel	51.15	-2.71	406	810	Yes	Saxon regions	Rahtz & Hirst 1974
Beckford	52.02	-2.03	450	565	No	Saxon regions	Evison & Hill 1996
Beckum	51.35	7.9	460	620	No	Lower Rhine	Capelle 1979
Bel-Air	46.5333	6.6667	460	800	No	Burgundy	Leitz 2002
Bergeijk-Fazantlaan	51.3167	5.3667	565	740	No	Lower Rhine	Theuws *et al.* 2012
Bergh Apton	52.551	1.4	510	585	No	Anglia	Green & Rogerson 1978
Berghausen	49.0064	8.5294	620	730	Yes	Northern Alamannia	Koch 1982
Berinsfield	51.67	-1.18	450	645	No	Saxon regions	Boyle *et al.* 1995
Bifrons, Patrixbourne	51.25	1.1167	525	565	No	Kent	Richardson 2005
Blacknall Field	51.33	-1.75	500	550	No	Saxon regions	Annable & Eagles 2010
Bloodmoor Hill	52.45	1.7	580	710	No	Anglia	Lucy *et al.* 2009
Bloville	50.3972	1.8749	560	710	No	West Frankia	Routier *et al*. 2008
Bonnières	49.5108	1.9649	500	700	No	West Frankia	Berthelier-Ajot 1982
Borsbeek	51.1959	4.4907	600	700	No	Lower Rhine	De Boe 1970
Boss Hall	52.0833	1.1667	500	685	No	Anglia	Scull & Archibald 2009
Braives	50.6286	5.1478	575	700	No	Lower Rhine	Brulet & Moureau 1979
Breach Down	51.2167	1.15	610	700	No	Kent	Richardson 2005
Bréal-sous-Vitré	48.1031	-1.0613	538	1220	No	Normandy	Le Boulanger *et al*. 2005

Bremen-Mahndorf I	53.0333	8.95	500	750	No	Saxony	Grohne 1953
Bremen-Mahndorf II	53.0333	8.95	750	900	No	Saxony	Grohne 1953
Buchères	48.2351	4.1131	560	1000	No	East Frankia	Maury *et al.* 2013
Buchten	51.05	5.8167	603	780	No	Lower Rhine	Derks & de Fraiture 2015
Buggingen	47.85	7.63	600	700	No	Southern Alamannia	Jansen 2003
Bulles	49.4595	2.3257	440	725	No	West Frankia	Legoux 2001
Burgh Castle	52.5667	1.6833	650	990	No	Anglia	Johnson 1983
Burwell	52.2667	0.3333	555	685	No	Anglia	Lethbridge 1931
Butler's Field	51.7	-1.7	450	685	No	Saxon regions	Boyle *et al.* 1998
Buttermarket	52.0833	1.1667	610	690	No	Anglia	Scull & Archibald 2009
Caister-on-Sea	52.65	1.75	720	1050	No	Anglia	Darling *et al.* 1993
Camerton	51.32	-2.46	625	685	No	Saxon regions	Wedlake 1958
Candes-Saint-Martin	47.2117	0.0737	660	780	No		Philippon & Gaultier 2014
Castledyke South	53.6833	-0.45	500	685	No	Northumbria	Drinkall *et al.* 1998
Chamberlain's Barn	51.92	-0.65	580	685	No	Saxon regions	Hyslop 1963
Chaniers	45.7186	-0.5578	600	900	Yes	Normandy	Moizan *et al.* 2009
Chanteloup-en-brie	48.856	2.739	700	900	Yes	West Frankia	Fossurier 2008
Chartham Down	51.25	1.1667	625	685	no	Kent	Richardson 2005
Chémeré	47.1206	-1.9175	560	710	No	Normandy	Gallien 2009
Ciply	50.4167	3.9333	500	720	No	West Frankia	Faider-Feytmans 1970
Cleatham	53.4667	-0.6	450	685	No	Northumbria	Leahy 2007
Clos d'Aubonne	46.4536	6.8586	450	840	no	Burgundy	Steiner & Klausener 2011

Coisy	49.9596	2.3269	580	680	No	West Frankia	Massey 1980
Cook Street, Southampton	50.9	-1.4	620	890	No	Saxon regions	Garner 1993, Garner *et al.* 2001
Crayke	54.1333	-1.15	770	1020	Yes	Northumbria	Adams 1990
Crotenay	46.7528	5.813	450	710	No	Burgundy	Gilles 2008
Cuignières	49.4515	2.473	560	680	No	West Frankia	Legoux 1980
Cutry	49.4828	5.7481	470	700	No	Eastern Frankia	Legoux 2005
Dachwig	51.0667	10.85	470	670	No	Thuringia	Will 1994
Deersheim	51.9833	10.7833	450	550	no	Thuringia	Schneider 1983
Dirmstein	49.56	8.24	530	720	No	Northern Alamannia	Leithäuser 2011
Donaueschingen	47.95	8.5	620	710	No	Southern Alamannia	Buchta-Hohm 1996
Dover Buckland	51.1333	1.3	510	685	No	Kent	Evison 1987, Parfitt & Anderson 2012
Eccles	51.3167	0.4833	700	1000	No	Kent	Richardson 2005
Edix Hill	52.1167	0.0333	510	685	No	Anglia	Malim & Hines 1998
Eichstetten	48.08	7.73	500	700	No	Northern Alamannia	Sasse 2001
Eick	51.4833	6.6333	525	680	No	Lower Rhine	Hinz 1969
Elgg	47.4903	8.8666	530	700	No	Southern Alamannia	Windler & Langenegger 1994
Empingham	52.65	-0.58	450	585	No	Anglia	Timby & Bartlett 1996
Engelsmanhoven	50.7742	5.253	500	700	No	Lower Rhine	Schaetzen & Vanderhoeven 1954, Vanderhoeven 1977
Ennery	49.2262	6.218	525	620	No	Eastern Frankia	Delort 1947
Entrammes	47.9976	-0.71	650	710	Yes	Normandy	Guillier 2006
Epolding-Muhlthal	47.9833	11.4667	600	720	Yes	Bavaria	Dannheimer 1968a

Epolding-Muhlthal Kirche	47.9833	11.4667	700	1000	No	Bavaria	Dannheimer 1968a
Eschborn	50.1333	8.55	400	565	No	Lower Rhine	Ament 1992
Esslingen	48.75	9.3	750	870	Yes	Northern Alamannia	Fehring *et al.*1995
Eynsford	51.35	0.2167		1000	No	Kent	Richardson 2005
Fellbach-Schmiden	48.83	9.27	460	600	No	Northern Alamannia	Roth 1982
Finglesham	51.2333	1.35	510	685	No	Kent	Chadwick Hawkes & Grainger 2006
Folx-les-Caves	50.6612	4.9378	525	700	No	Lower Rhine	Alenus 1963
Fridingen	48.0167	8.9333	550	680	No	Southern Alamannia	Schnurbein 1987
Giengen an der Brenz	48.6167	10.25	570	720	No	Northern Alamannia	Paulsen & Schach-Dörges 1978
Gilton Ash	51.2833	1.2667	580	685	No	Kent	Richardson 2005
Goudelancourt-les-Pierrepont	49.6677	3.854	520	725	No	West Frankia	Nice 2008
Grande Oye	46.9277	6.3522	550	700	No	Burgundy	Urlacher *et al*. 1998
Great Chesterford	52.07	0.2	450	585	No	Saxon regions	Evison 1994
Großschwabhausen	50.9333	11.4833	700	900	Yes	Thuringia	Timpel & Spazier 2014, 249-251
Güttingen	47.7667	9.00	580	700	No	Southern Alamannia	Fingerlin 1971
Haillot	50.4438	5.1475	650	710	No	Lower Rhine	Breuer & Roosens 1956
Hamoir	50.4267	5.533	550	700	No	Lower Rhine	Alenus-Leclerf 1975
Harford Farm	52.5833	1.3	625	710	No	Anglia	Penn 2000
Haudricourt	49.7338	1.7051	530	680	Yes	West Frankia	Mantel *et al.* 1994
Hégenheim	47.5625	7.5268	530	700	No	Southern Alamannia	Billoin *et al.* 2008
Heidenheim an der Brenz	48.68	10.15	630	730	Yes	Northern Alamannia	Dannheimer 1971
Hérouvillette	49.2213	-0.2435	525	600	No	Normandy	Decaens 1971

Hières-sur-Amby	45.7978	5.2947	648	1161	No	Burgundy	Porte & Buchet 1985
Hockenheim	49.32	8.55	600	700	No	Northern Alamannia	Clauss 1986
Holborough	51.3333	0.45	565	645	No	Kent	Richardson 2005
Hollogne-aux-Pierres	50.6327	5.4749	525	700	No	Lower Rhine	Alenus-Leclerf & Dradon 1967
Hordain	50.2631	3.3136	500	800	Yes	West Frankia	Demolon 2006
Jeoffrécourt	49.5711	3.8937	560	710	No	West Frankia	Martin, 2011
Kelheim-Gmund	48.9167	11.8667	550	700	No	Bavaria	Koch 1968, 154-169
King Harry Lane	51.75	-0.37	580	685	No	Saxon regions	Ager 1989
King's Hostel	52.2	0.1167	600	700	No	Anglia	Dodwell *et al.* 2004
Kingston Down	51.2	1.15	580	685	No	Kent	Richardson 2005
Kirchheim am Ries	48.8833	10.4	530	750	No	Northern Alamannia	Neuffer-Müller 1983
Kleinlangheim	49.7667	10.2833	450	765	Yes	Northern Alamannia	Pescheck & Hundt 1996
Klepsau	49.39	9.67	545	680	No	Northern Alamannia	Koch 1990
Koenigsmacker	49.3949	6.2786	500	650	No	Eastern Frankia	Peytremann 2008
Junkersdorf	50.9333	6.95	400	750	No	Lower Rhine	La Baume 1967
Müngersdorf	50.9333	6.8667	460	680	No	Lower Rhine	Fremersdorf, F. (1995
Koln-St. Severin	50.9333	6.95	400	750	Yes	Lower Rhine	Päffgen 1992
Kösingen	48.75	10.42	525	700	No	Northern Alamannia	Knaut 1993
Krefeld-Gellep	51.3333	6.5667	400	750	No	Lower Rhine	Pirling & Hollstein 1979, Pirling *et al.* 1989, Pirling & Grodde 1997, Pirling & Siepen 2000, Pirling *et al.* 2003

La Mouline	47.8413	1.1144	500	700	No	Normandy	Burnell *et al.* 1994
La Pierre Bat	48.8925	1.6836	480	700	No	West Frankia	Barat *et al.* 2001
L'Abbaye de Saint Evre	48.6746	5.8929	500	710	No	Eastern Frankia	Liéger *et al.* 1984
Lamersdorf	50.85	6.35	460	620	No	Lower Rhine	Piepers 1963
Largillay-Marsonnay	46.5542	5.6749	600	900	No	Burgundy	Billoin *et al.* 2006
Lauterhofen	49.3667	11.6167	650	720	No	Bavaria	Dannheimer 1968
Le Champ des Vis (Evans)	47.1789	5.7681	700	800	No	Burgundy	Bonvalot 2003
Le Martray, Giberville	49.1816	-0.2839	500	700	No	Normandy	Pilet *et al.* 1990
Le Trillet a Meyzieu	45.7705	5.0001	475	740	No	Burgundy	Blaizot *et al.* 2001
Lent	51.8667	5.8667	560	720	No	Lower Rhine	Van Es *et al.* 1991
Liebenau	52.6	9.10	450	660	No	Saxony	Cosack & Hässler 1982
Longueil-Annel	49.4691	2.8646	550	750	No	West Frankia	Fréville & Journa 1994
Lucy-Ribemont	49.7954	3.4589	480	690	No	West Frankia	Collart 1982
Lyminge II	51.1167	1.0833	525	595	no	Kent	Warhurst 1955
Marina Drive	51.88	-0.52	625	685	No	Saxon regions	Matthews 1962
Mars-la-Tour	49.0981	5.8858	560	710	No	Eastern Frankia	Villier 2013
Melbourn	52.0833	0.0167	510	685	No	Anglia	Duncan *et al.* 2003
Mels	47.05	9.43	550	1000	Yes	Southern Alamannia	Grüninger *et al.* 1988; Martin 1988
Merdingen	48.0167	7.6833	580	720	No	Southern Alamannia	Fingerlin 1971
Metzervisse	49.315	6.2855	600	880	Yes	Eastern Frankia	Lansival 2007
Mill Hill	51.2167	1.4	510	645	No	Kent	Parfitt & Brugmann 1997
Mindelheim	48.05	10.4833	600	700	No	Northern Alamannia	Werner 1955

Minster-in-Sheppey	51.4167	0.8167	700	1000	Yes	Kent	Philp & Cheney 1998
Mollans	47.6494	6.3686	600	700	No	Burgundy	Chopelain & Watel 2003
Monkton	51.3333	1.2833	510	685	No	Kent	Richardson 2005
Montataire	49.259	2.4378	485	640	No	West Frankia	Decormeille-Patin *et al.* 1999
Moreuil	49.7746	2.4827	485	690	No	West Frankia	Bayard *et al.* 1981
Morning Thorpe	52.483	1.254	510	645	No	Anglia	Green *et al.* 1987
Mucking	51.5	0.43	500	645	No	Saxon regions	Hirst & Clark 2009
Mülhausen	50.9833	10.3167	600	720	No	Thuringia	Timpel & Spazier 2014, 142-143
Munzingen	47.9667	7.7	640	720	No	Southern Alamannia	Groove 2001
Nazeingbury	51.73	0.07	700	870	Yes	Saxon regions	Huggins 1978
Neresheim	48.75	10.35	450	700	No	Northern Alamannia	Knaut 1993
Neuburg an der Donau	48.7333	11.1833	670	760	No	Bavaria	Höke 2013
Newcastle-upon-Tyne Castle	54.9881	-1.6194	700	1200	No	Northumbria	Nolan *et al.* 2010
Norton	54.5833	-1.3167	450	650	No	Northumbria	Sherlock *et al.* 1992
Nouvion-en-Ponthieu	50.2138	1.7777	485	690	Yes	West Frankia	Piton & Schuler 1981
Obbicht-Oude Molen	51.0333	5.7833	510	680	No	Lower Rhine	Kars *et al.* 2016
Oosterbeintum	53.35	5.8667	450	750	No	Saxony	Knol *et al.* 1996
Otzing	48.7667	12.8167	650	700	No	Bavaria	Koch 1968, 142-145
Pleidelsheim	48.97	9.2	430	670	No	Northern Alamannia	Koch 2001
Pliening	48.2	11.8	480	620	No	Bavaria	Codreaunu-Windauer & Hundt 1997
Polhill	51.2667	0.2	545	685	No	Kent	Philp 2002

Portway	51.2	-1.48	510	585	No	Saxon regions	Cook & Dacre 1985
Posterholt-Achterste Voorst	51.1333	6.0333	510	750	No	Lower Rhine	Haas *et al.* 2013
Prittlewell	51.55	0.7	510	685	No	Saxon regions	Tyler 1988
Putten	52.2667	5.6167	500	750	No	Lower Rhine	Ypey 1964
Regensburg-Burgweinting	48.9833	12.15	520	770	No	Bavaria	Zintl 2013
Remda	50.7667	11.2167	700	900	No	Thuringia	Timpel & Spazier 2014, 83-84
Rhenen	51.9667	5.5667	375	750	No	Lower Rhine	Wagner & Ypey 2012
Riccall Landing	53.818	-1.05	680	1165	No	Northumbria	Hall *et al.* 2008
Richelieu	47.0139	0.3241	600	750	No	Normandy	Blanchard & Georges 2004
Risely	51.3833	0.2333	525	565	No	Kent	Richardson 2005
Rivenhall	51.83	0.67	789	1100	No	Saxon regions	Rodwell 1985
Rödingen	50.9667	6.45	460	750	No	Lower Rhine	Janssen 1993, Herget 2006
Rohnstedt	51.2167	10.8333	700	1050	No	Thuringia	Bach 1986
Rosmeer	50.85	5.5833	550	700	Yes	Lower Rhine	Roosens *et al.* 1976, Roosens 1978
Royaumeix	48.7779	5.8702	500	680	No	Eastern Frankia	Liéger & Marguet 1992
Rübenach	50.3667	7.5167	480	700	No	Lower Rhine	Neuffer-Müller & Ament 1973
Sacy-le-Petit	49.3609	2.6294	550	650	No	West Frankia	Durand & Vanhaeke 1987
Saint Marcel	49.7631	4.5727	560	710	No	Lower Rhine	Desbrosse-Degobertière & Bonnabel 2010
Saint Martin de Verson	49.1568	-0.4436	650	720	No	Normandy	Lemière & Levalet 1980
Saint Martin, Giberville	49.1816	-0.2839	680	900	No	Normandy	Pilet *et al.* 1990
Saint Prex	46.4801	6.4593	500	900	No	Burgundy	Pelichet 1952

Saint Saturnin	45.8235	0.4501	450	710	No	East Frankia	Stutz *et al.* 2008
Saint Sauveur	49.9379	2.2116	440	710	No	West Frankia	Legoux & Ben Redjeb 2007
Saint Sulpice	46.9104	6.5645	500	700	No	Burgundy	Marti 1990
Saint Vit	47.1833	5.8167	520	640	Yes	Burgundy	Urlacher *et al.* 2008
Sainte-Barbe	48.6004	7.7874	300	900	No	Southern Alamannia	Blaizot *et al.* 2004
Sarching	49.0167	12.2333	550	620	No	Bavaria	Koch 1968, 191-194
Sarre	51.3333	1.2333	500	650	No	Kent	Richardson 2005
Savigny-sur-Ardres	49.2445	3.7819	470	610	No	West Frankia	Paresys 2010
Schelklingen	48.37	9.73	560	710	No	Southern Alamannia	Schimd 1992
Schretzheim	48.6	10.52	525	680	No	Northern Alamannia	Koch 1977
Sendling	48.0167	12.1667	510	675	No	Bavaria	Suhr 2010
Sewerby	54.085	-0.167	500	685	No	Northumbria	Hirst 1985
Sézegnin	46.1448	6.0067	400	710	No	Burgundy	Privati 1983
Shrubland Hall Quarry	52.1333	1.1167	580	685	No	Anglia	Penn & Anderson 2011
Shudy Camps	52.05	0.3667	580	700	No	Anglia	Lethbridge 1936
Sibertswold/Barfreston	51.1833	1.2333	625	685	No	Kent	Richardson 2005
Sissach	46.47	7.8	620	720	Yes	Burgundy	Burnell 1998
Sittard-Kemperkoul	51	5.8667	510	750	No	Lower Rhine	Kars *et al.* 2016
Snape	52.1833	1.5	450	650	No	Anglia	Filmer-Sankey & Pestell 2001
Snell's Corner	50.92	-0.98	610	685	No	Saxon regions	Knocker 1956
Sömmerda	51.15	11.1	500	700	No	Thuringia	Timpel & Spazier 2014, 177-178
Spong Hill	52.7333	0.95	450	595	No	Anglia	Hills *et al.* 1984
St Gereon	50.9333	6.95	400	750	No	Lower Rhine	Verstegen 2006

St Mary's Stadium	50.9	-1.4	625	690	No	Saxon regions	Birbeck 2005
St Paul-in-the-Bail	53.2333	-0.5333	450	1000	yes	Anglia	Steane 1991
St Peter's Tip	51.3667	1.45	450	685	No	Kent	Harrington & Brookes 2008
St. Servatius (Carolingian)	50.85	5.6833	660	890	Yes	Lower Rhine	Theuws & Kars 2017
St. Servatius (Merovingian)	50.85	5.6833	400	725	No	Lower Rhine	Theuws & Kars 2017
Staubing	48.88	11.82	570	700	Yes	Bavaria	Fischer & Hundt 1993
Staunch Meadows	52.45	0.6167	680	900	Yes	Anglia	Tester *et al.* 2013
Stein-Groote Bongerd	50.9667	5.7667	510	680	No	Lower Rhine	Kars *et al.* 2016
Steinhöring	48.08	12.0333	450	675	No	Bavaria	Arnold 1992
Stetten	47.87	8.72	620	710	No	Southern Alamannia	Weis 1999
Straubing-Bajuwarenstrasse	48.8833	12.5667	450	700	No	Bavaria	Geisler & Ganslmeier 1998
Streethouse Loftus	54.55	-0.8833	630	670	No	Northumbria	Sherlock & Allen 2012
Sundremda	50.75	11.2167	700	1200	No	Thuringia	Timpel & Spazier 2014, 86-94
Tittleshall	52.75	0.8	480	660	No	Anglia	Walton Rogers & Allen 2013
Tournai	50.6072	3.3893	450	620	No	Lower Rhine	Brulet & Coulon 1990
Tranmer House	52.1	1.3167	510	650	No	Anglia	Fern 2015
Ulwell	50.62	-1.97	630	855	No	Saxon regions	Cox 1988
Uncleby	54.0251	-0.7578	580	685	No	Northumbria	Smith 1912
Vellechevreux	47.5391	6.5372	665	1016	No	Burgundy	Peytremann *et al.* 1999
Verrerie	47.3196	4.9059	600	650	No	Burgundy	Chevalier *et al.* 1984
Vorges	49.5187	3.6539	530	650	No	West Frankia	Flèche-Mourgues 1988
Vuippens	46.6565	7.0617	480	600	No	Burgundy	Schwab *et al.* 1997

Wageningen	51.9667	5.6667	400	675	No	Lower Rhine	Van Es 1964
Wasselonne	48.6372	7.4473	605	770	No	Southern Alamannia	Thomann & Waton 2008
Weißenburg	49.0333	10.9833	600	680	No	Northern Alamannia	Jemiller 1996
Wells Cathedral	51.22	-2.65	600	1100	Yes	Saxon regions	Rodwell 2001
West Heslerton	54.166	-0.593	500	685	No	Northumbria	Haughton & Powlesland 1999
Wijchen	51.8167	5.7333	450	640	No	Lower Rhine	Heeren & Hazenberg 2010
Winall II	51.02	-1.32	625	685	No	Saxon regions	Meaney & Chadwick Hawkes 1970
Worthy Park	51.08	-1.3	500	570	No	Saxon regions	Chadwick Hawkes & Grainger 2003
Yverdon-les-Bains	46.7779	6.6355	550		No	Burgundy	Steiner *et al.* 2000

1.2. Chronological Information

Cemetery	Start Date	End Date	Dating methodology	Included in in-depth analysis
Addingham	660	1020	Radiocarbon dates	Yes
Ailcy Hill	560	990	Radiocarbon dates	Yes
Alach	570	650	Only approximate dates given	No
Aldingen	450	500	Used the typologies from Koch 2001, and other comparative cemeteries	Yes
Altenerding	450	675	Dated in Hakenbeck 2011	Yes
Alton	450	595	Dated in Hines & Bayliss 2013	Yes
Ammern	600	720	Only approximate dates given	No
Apple Down	510	650	Dated in Hines & Bayliss 2013	Yes
Arlon	535	700	Uses Böhner's 1958 typology, and one radiocarbon date	Yes
Arrentières	560	710	Used Legoux *et al.*'s 2004 typology	No
Aschheim	550	950	Radiocarbon dates	Yes
Aubing	450	675	Dated in Hakenbeck 2011	Yes
Aux Sarrasins (Evans)	550	675	Artefact typology	Yes
Bad Mingolsheim	570	680	Used multiple local typologies, including Koch 2001	Yes
Banneville-la-Campagne	500	610	Uses Legoux *et al.*'s 2004 typology	No
Barbing-Irlmauth	500	550	Only approximate dates given	No
Bärenthal	664	965	Radiocarbon dates	Yes
Bargen	590	720	Used the typology of Koch 1977	Yes

Basel-Kleinhüningen	450	720	Only approximate dates given	No
Beacon Hill	710	1160	Radiocarbon dates	Yes
Beakesbourne II	525	565	Dated in Hines & Bayliss 2013	Yes
Beckery Chapel	406	810	Radiocarbon dates	Yes
Beckford	450	565	Dated in Hines & Bayliss 2013	Yes
Beckum	460	620	Uses Böhner's 1958 typology	Yes
Bel-Air	460	800	Used multiple local typologies	Yes
Bergeijk-Fazantlaan	565	740	Seriation based on Müssemeier *et al.*'s 2003 chronology	Yes
Bergh Apton	510	585	Dated in Hines & Bayliss 2013	Yes
Berghausen	620	730	Used the typology of Koch 1977	Yes
Berinsfield	450	645	Dated in Hines & Bayliss 2013	Yes
Bifrons, Patrixbourne	525	565	Dated in Hines & Bayliss 2013	Yes
Blacknall Field	500	550	Dated in Hines & Bayliss 2013	Yes
Bloodmoor Hill	580	710	Dated in Hines & Bayliss 2013	Yes
Bloville	560	710	Seriation based on Legoux *et al.*'s 2004 chronology	Yes
Bonnières	500	700	Only approximate dates given	No
Borsbeek	600	700	Only approximate dates given	No
Boss Hall	500	685	Dated in Hines & Bayliss 2013	Yes
Braives	575	700	Only approximate dates given	No
Breach Down	610	700	Dated in Hines & Bayliss 2013	Yes
Bréal-sous-Vitré	538	1220	Radiocarbon dates	No
Bremen-Mahndorf I	500	750	Only approximate dates given	No
Bremen-Mahndorf II	750	900	Only approximate dates given	No
Buchères	560	1000	Radiocarbon dates	No
Buchten	603	780	Radiocarbon dates	Yes
Buggingen	600	700	Used multiple local typologies	Yes
Bulles	440	725	Seriation based on Legoux *et al.*'s 2004 chronology	Yes
Burgh Castle	650	990	Radiocarbon dates	Yes
Burwell	555	685	Dated in Hines & Bayliss 2013	Yes
Butler's Field	450	685	Dated in Hines & Bayliss 2013	Yes
Buttermarket	610	690	Dated in Hines & Bayliss 2013	Yes
Caister-on-Sea	720	1050	Radiocarbon dates	Yes
Camerton	625	685	Dated in Hines & Bayliss 2013	Yes
Candes-Saint-Martin	660	780	One radiocarbon date	No
Castledyke South	500	685	Dated in Hines & Bayliss 2013	Yes
Chamberlain's Barn	580	685	Dated in Hines & Bayliss 2013	Yes
Chaniers	600	900	Uses the typologies from Legoux *et al.* 2004, with residual pot sherds providing approximate dates for the later graves	No
Chanteloup-en-brie	700	900	Radiocarbon dates	Yes
Chartham Down	625	685	Dated in Hines & Bayliss 2013	Yes
Chémeré	560	710	Used the typologies from Legoux *et al.* 2004	No
Ciply	500	720	Only approximate dates given	No
Cleatham	450	685	Dated in Hines & Bayliss 2013	Yes
Clos d'Aubonne	450	840	Used multiple local typologies, and coins for last phase	Yes
Coisy	580	680	Used the phases developed at Bulles	Yes

Cook Street, Southampton	620	890	Radiocarbon dates	Yes
Crayke	770	1020	Radiocarbon dates	Yes
Crotenay	450	710	Used the typology from Legoux *et al.* 2004	Yes
Cuignières	560	680	Seriation based on Legoux *et al.* 2004	Yes
Cutry	470	700	Seriation based on Legoux *et al.* 2004	Yes
Dachwig	470	670	Used the typology from Ament 1976	No
Deersheim	450	550	Only approximate dates given	No
Dirmstein	530	720	Used the typology of Koch 2001	Yes
Donaueschingen	620	710	Used the typologies of Koch 1982 and Roth & Theune 1988	Yes
Dover Buckland	510	685	Dated in Hines & Bayliss 2013	Yes
Eccles	700	1000	Only approximate dates given	No
Edix Hill	510	685	Dated in Hines & Bayliss 2013	Yes
Eichstetten	500	700	Seriation, using multiple local typologies	Yes
Eick	525	680	Dated in Müssemeier *et al.* 2003	Yes
Elgg	530	700	Seriation, exact dates based on multiple local typologies	Yes
Empingham	450	585	Dated in Hines & Bayliss 2013	Yes
Engelsmanhoven	500	700	Used the typology of Böhner 1958	Yes
Ennery	525	620	Used the typology of Périn 1980	Yes
Entrammes	650	710	Used the typology from Legoux *et al.* 2004	No
Epolding-Muhlthal	600	720	Only approximate dates given	No
Epolding-Muhlthal Kirche	700	1000	Only approximate dates given	No
Eschborn	400	565	Dated in Müssemeier *et al.* 2003	No
Esslingen	750	870	Dated relative to the church	Yes
Eynsford	700	1000	Only approximate dates given	No
Fellbach-Schmiden	460	600	Used multiple local typologies	Yes
Finglesham	510	685	Dated in Hines & Bayliss 2013	Yes
Folx-les-Caves	525	700	Artefact typologies	Yes
Fridingen	550	680	Used the typologies of Christlein 1966	Yes
Giengen an der Brenz	570	720	Only approximate dates given	Yes
Gilton Ash	580	685	Dated in Hines & Bayliss 2013	Yes
Goudelancourt-les-Pierrepont	520	725	Individual seriation based on the typology from Legoux *et al.* 2004	Yes
Grande Oye	550	700	Individual seriation	Yes
Great Chesterford	450	585	Dated in Hines & Bayliss 2013	Yes
Großschwabhausen	700	900	Only approximate dates given	No
Güttingen	580	700	Used the typology from Böhner 1958	Yes
Haillot	650	710	Only approximate dates given	No
Hamoir	550	700	Artefact typologies	Yes
Harford Farm	625	710	Dated in Hines & Bayliss 2013	Yes
Haudricourt	530	680	Individual seriation based on the typology from Legoux *et al.* 2004	Yes
Hégenheim	530	700	Used multiple local typologies	Yes
Heidenheim an der Brenz	630	730	Used multiple local typologies	Yes
Hérouvillette	525	600	Artefacts typologies + coin dates	No
Hières-sur-Amby	648	1161	Radiocarbon dates	Yes

Hockenheim	600	700	Only approximate dates given	No
Holborough	565	645	Dated in Hines & Bayliss 2013	Yes
Hollogne-aux-Pierres	525	700	Artefact typologies	Yes
Hordain	500	800	Seriation, with absolute dates assigned on the basis of coins from this and other cemeteries	No
Jeoffrécourt	560	710	Individual seriation based on the typology from Legoux *et al.* 2004	Yes
Kelheim-Gmund	550	700	Only approximate dates given	No
King Harry Lane	580	685	Dated in Hines & Bayliss 2013	Yes
King's Hostel	600	700	Dated in Hines & Bayliss 2013	Yes
Kingston Down	580	685	Dated in Hines & Bayliss 2013	Yes
Kirchheim am Ries	530	750	Used multiple local typologies	Yes
Kleinlangheim	450	765	Used the typology of Ament 1976	Yes
Klepsau	545	680	Used the typologies from Koch 1971	Yes
Koenigsmacker	500	650	Used the typology from Legoux *et al.* 2004	Yes
Junkersdorf	400	750	Dated in Müssemeier *et al.* 2003	Yes
Müngersdorf	460	680	Dated in Müssemeier *et al.* 2003	Yes
Koln-St. Severin	400	750	Dated in Müssemeier *et al.* 2003	Yes
Kösingen	525	700	Used the typology of Koch 1977	Yes
Krefeld-Gellep	400	750	Dated in Müssemeier *et al.* 2003	Yes
La Mouline	500	700	Only approximate dates given	No
La Pierre Bat	480	700	Used the typology of Périn 1980 and other local typologies	Yes
L'Abbaye de Saint Evre	500	710	Used the typology of Périn 1980	Yes
Lamersdorf	460	620	Dated in Müssemeier *et al.* 2003	Yes
Largillay-Marsonnay	600	900	Used the typology from Legoux *et al.* 2004, and pottery dates for later graves	Yes
Lauterhofen	650	720	Multiple schemes	Yes
Le Champ des Vis (Evans)	700	800	Only approximate dates given	No
Le Martray, Giberville	500	700	Only approximate dates given	No
Le Trillet a Meyzieu	475	740	Radiocarbon dates	Yes
Lent	560	720	Used the typology of Böhner 1958	Yes
Liebenau	450	660	Only approximate dates given	No
Longueil-Annel	550	750	Seriation based on the typology from Legoux *et al.* 2004	Yes
Lucy-Ribemont	480	690	Used the typology of Périn 1980	No
Lyminge II	525	595	Dated in Hines & Bayliss 2013	Yes
Marina Drive	625	685	Dated in Hines & Bayliss 2013	Yes
Mars-la-Tour	560	710	Used the typology from Legoux *et al.* 2004	Yes
Melbourn	510	685	Dated in Hines & Bayliss 2013	Yes
Mels	550	1000	Typological dating, along with reference to the date of the church	Yes
Merdingen	580	720	Used the typology from Böhner 1958	Yes
Metzervisse	600	880	Used the typology from Legoux *et al.* 2004, and radiocarbon dates	Yes
Mill Hill	510	645	Dated in Hines & Bayliss 2013	Yes
Mindelheim	600	700	Only approximate dates given	No
Minster-in-Sheppey	700	1000	Only approximate dates given	No

Mollans	600	700	Artefact typologies	Yes
Monkton	510	685	Dated in Hines & Bayliss 2013	Yes
Montataire	485	640	Used the chronology developed from Bulles	Yes
Moreuil	485	690	Individual seriation based on the typology from Legoux *et al.* 2004	Yes
Morning Thorpe	510	645	Dated in Hines & Bayliss 2013	Yes
Mucking	500	645	Dated in Hines & Bayliss 2013	Yes
Mülhausen	600	720	Only approximate dates given	No
Munzingen	640	720	Used multiple local typologies, including Ament 1976, and Koch 1977	Yes
Nazeingbury	700	870	Radiocarbon dates	Yes
Neresheim	450	700	Used the typology of Koch 1977	Yes
Neuburg an der Donau	670	760	Radiocarbon dates	Yes
Newcastle-upon-Tyne Castle	700	1200	Radiocarbon dates	No
Norton	450	650	Dated in Hines & Bayliss 2013	Yes
Nouvion-en-Ponthieu	485	690	Individual seriation based on the typology from Legoux *et al.* 2004	Yes
Obbicht-Oude Molen	510	680	Individual seriation based on the typology of Müssemeier *et al.* 2003, but with some reference to other typologies as well	Yes
Oosterbeintum	450	750	Radiocarbon dates	No
Otzing	650	700	Only approximate dates given	No
Pleidelsheim	430	670	Seriation based on multiple local cemeteries	Yes
Pliening	480	620	Dated in Hakenbeck 2011	Yes
Polhill	545	685	Dated in Hines & Bayliss 2013	Yes
Portway	510	585	Dated in Hines & Bayliss 2013	Yes
Posterholt-Achterste Voorst	510	750	Seriation based on the typology of Müssemeier *et al.* 2003, with some references to other typologies as well	Yes
Prittlewell	510	685	Dated in Hines & Bayliss 2013	Yes
Putten	500	750	Used the typology from Legoux *et al.* 2004 and Müssemeier *et al.* 2003	Yes
Regensburg-Burgweinting	520	770	Radiocarbon dates	Yes
Remda	700	900	Only approximate dates given	No
Rhenen	375	750	Artefact typologies	No
Riccall Landing	680	1165	Radiocarbon dates	Yes
Richelieu	600	750	Artefact typologies	No
Risely	525	565	Dated in Hines & Bayliss 2013	Yes
Rivenhall	789	1100	Radiocarbon dates	Yes
Rödingen	460	750	Dated in Müssemeier *et al.* 2003	Yes
Rohnstedt	700	1050	Only approximate dates given	No
Rosmeer	550	700	Artefact typologies	Yes
Royaumeix	500	680	Used the typology of Périn 1980	Yes
Rübenach	480	700	Used the typology of Böhner 1958	No
Sacy-le-Petit	550	650	Artefact typologies	Yes
Saint Marcel	560	710	Used the typology from Legoux *et al.* 2004	Yes
Saint Martin de Verson	650	720	Only approximate dates given	No

Saint Martin, Giberville	680	900	Only approximate dates given	No
Saint Prex	500	900	Only approximate dates given	No
Saint Saturnin	450	710	Used the typology from Legoux *et al.* 2004	Yes
Saint Sauveur	440	710	Seriation based on the typology from Legoux *et al.* 2004	Yes
Saint Sulpice	500	700	Only approximate dates given	No
Saint Vit	520	640	Used the typology from Legoux *et al.* 2004	Yes
Sainte-Barbe	300	900	Radiocarbon dates	Yes
Sarching	550	620	Only approximate dates given	No
Sarre	500	650	Dated in Hines & Bayliss 2013	Yes
Savigny-sur-Ardres	470	610	Used the typology from Legoux *et al.* 2004	Yes
Schelklingen	560	710	Used multiple local typologies, and the overall phasing of Ament 1976	Yes
Schretzheim	525	680	Seriation	Yes
Sendling	510	675	Dated with reference to multiple schemes	Yes
Sewerby	500	685	Dated in Hines & Bayliss 2013	Yes
Sézegnin	400	710	Only approximate dates given	No
Shrubland Hall Quarry	580	685	Dated in Hines & Bayliss 2013	Yes
Shudy Camps	580	700	Dated in Hines & Bayliss 2013	Yes
Sibertswold/Barfreston	625	685	Dated in Hines & Bayliss 2013	Yes
Sissach	620	720	Used the typology of Ament 1976	Yes
Sittard-Kemperkoul	510	750	Seriation based on Müssemeier *et al.* 2003, as well as other typological schemes	Yes
Snape	450	650	Dated in Hines & Bayliss 2013	Yes
Snell's Corner	610	685	Dated in Hines & Bayliss 2013	Yes
Sömmerda	500	700	Only approximate dates given	No
Spong Hill	450	595	Dated in Hines & Bayliss 2013	Yes
St Gereon	400	750	Coin dates	Yes
St Mary's Stadium	625	690	Dated in Hines & Bayliss 2013	Yes
St Paul-in-the-Bail	450	1000	Radiocarbon dates	Yes
St Peter's Tip	450	685	Dated in Hines & Bayliss 2013	Yes
St. Servatius (Carolingian)	660	890	Used the typologies from Müssemeier *et al.* 2003, as well as other typological schemes	Yes
St. Servatius (Merovingian)	400	725	Used the typologies from Müssemeier *et al.* 2003, as well as other typological schemes	Yes
Staubing	570	700	Multiple schemes	Yes
Staunch Meadows	680	900	Radiocarbon dated	Yes
Stein-Groote Bongerd	510	680	Seriation based on Müssemeier *et al.* 2003, as well as other typological schemes	Yes
Steinhöring	450	675	Dated in Hakenbeck 2011	Yes
Stetten	620	710	Seriation, with absolute dates based on multiple local chronologies	Yes
Straubing-Bajuwarenstrasse	450	700	Only approximate dates given	No
Streethouse Loftus	630	670	Dated in Hines & Bayliss 2013	Yes

Sundremda	700	1200	Only approximate dates given	
Tittleshall	480	660	Dated in Hines & Bayliss 2013	Yes
Tournai	450	620	Seriation, using Bulles's chronology for absolute dates	No
Tranmer House	510	650	Dated in Hines & Bayliss 2013	Yes
Ulwell	630	855	Radiocarbon dates	Yes
Uncleby	580	685	Dated in Hines & Bayliss 2013	Yes
Vellechevreux	665	1016	Radiocarbon dates	Yes
Verrerie	600	650	Used the typology of Böhner 1958	Yes
Vorges	530	650	Used the typology of Périn 1980	Yes
Vuippens	480	600	Only approximate dates given	No
Wageningen	400	675	Artefact typologies	Yes
Wasselonne	605	770	Used multiple local typologies; one radiocarbon date	Yes
Weißenburg	600	680	Used multiple local typologies	Yes
Wells Cathedral	600	1100	Radiocarbon dates	Yes
West Heslerton	500	685	Dated in Hines & Bayliss 2013	Yes
Wijchen	450	640	Used the typology from Legoux *et al.* 2004	Yes
Winall II	625	685	Dated in Hines & Bayliss 2013	Yes
Worthy Park	500	570	Dated in Hines & Bayliss 2013	Yes
Yverdon-les-Bains	550	700	Seriation	Yes

1.3. Dating of Individual Cemeteries

1.3.1. Dover Buckland

Grave	Phase	Explanation
1	FC	Hines and Bayliss' seriation
4	FB	Dates from original report, adjusted for Hines and Bayliss' phases, according to table
6	FD	Hines and Bayliss' seriation
10	FD-E	Dates from original report, adjusted for Hines and Bayliss' phases, according to table
13	pre-FB	Original seriation, adjusted to take into account Hines and Bayliss' refined boundaries
13	pre-FB	Dates from original report, adjusted for Hines and Bayliss' phases, according to table
14	FB	Hines and Bayliss' seriation
15	FB	Dates from original report, adjusted for Hines and Bayliss' phases, according to table
18	FC	Hines and Bayliss' seriation
20	FB	Original seriation, adjusted to take into account Hines and Bayliss' refined boundaries
20	FB	Dates from original report, adjusted for Hines and Bayliss' phases, according to table
21	pre-FB	Dates from original report, adjusted for Hines and Bayliss' phases, according to table
22	pre-FB	Dates from original report, adjusted for Hines and Bayliss' phases, according to table
23	FB	Dates from original report, adjusted for Hines and Bayliss' phases, according to table
27	MF	Hines and Bayliss' seriation

28	FB	Dates from original report, adjusted for Hines and Bayliss' phases, according to table
29	FC	Hines and Bayliss' seriation
30	FB	Hines and Bayliss' seriation
32	FC	Hines and Bayliss' seriation
33	MF	Hines and Bayliss' seriation
34	FC	Dates from original report, adjusted for Hines and Bayliss' phases, according to table
35	FD	Hines and Bayliss' seriation
35	FC	Original seriation, adjusted to take into account Hines and Bayliss' refined boundaries
38	FB	Hines and Bayliss' seriation
38	FB	Original seriation, adjusted to take into account Hines and Bayliss' refined boundaries
39	ME	Hines and Bayliss' seriation
42	FB	Hines and Bayliss' seriation
43	FD-E	Original seriation, adjusted to take into account Hines and Bayliss' refined boundaries
43	FD-E	Dates from original report, adjusted for Hines and Bayliss' phases, according to table
44	FE	Original seriation, adjusted to take into account Hines and Bayliss' refined boundaries
44	FD-E	Dates from original report, adjusted for Hines and Bayliss' phases, according to table
46	FC	Dates from original report, adjusted for Hines and Bayliss' phases, according to table
48	pre-FB	Original seriation, adjusted to take into account Hines and Bayliss' refined boundaries
48	pre-FB	Dates from original report, adjusted for Hines and Bayliss' phases, according to table
49	pre-FB	Dates from original report, adjusted for Hines and Bayliss' phases, according to table
50	FB	Dates from original report, adjusted for Hines and Bayliss' phases, according to table
52	FD-E	Dates from original report, adjusted for Hines and Bayliss' phases, according to table
53	FD	Hines and Bayliss' seriation
53	FD	Original seriation, adjusted to take into account Hines and Bayliss' refined boundaries
55	FC	Hines and Bayliss' seriation
56	MD	Hines and Bayliss' seriation
59	FB	Hines and Bayliss' seriation
60	FB	Hines and Bayliss' seriation
62	FB	Hines and Bayliss' seriation
65	MB	Hines and Bayliss' seriation
67	FD	Hines and Bayliss' seriation
71	ME	Hines and Bayliss' seriation
75	FE	Hines and Bayliss' seriation
76	FD-E	Dates from original report, adjusted for Hines and Bayliss' phases, according to table
80	FD-E	Dates from original report, adjusted for Hines and Bayliss' phases, according to table
84	FD-E	Dates from original report, adjusted for Hines and Bayliss' phases, according to table

90	MD	Hines and Bayliss' seriation
91	MB	Hines and Bayliss' seriation
92	FB	Hines and Bayliss' seriation
93	MB	Hines and Bayliss' seriation
96a	MB	Hines and Bayliss' seriation
96b	MB	Hines and Bayliss' seriation
98	MB	Hines and Bayliss' seriation
107	FE	Hines and Bayliss' seriation
109	FD-E	Dates from original report, adjusted for Hines and Bayliss' phases, according to table
110	FE	Hines and Bayliss' seriation
113	FD-E	Dates from original report, adjusted for Hines and Bayliss' phases, according to table
120	FD-E	Dates from original report, adjusted for Hines and Bayliss' phases, according to table
124	FD	Original seriation, adjusted to take into account Hines and Bayliss' refined boundaries
126	FC	Dates from original report, adjusted for Hines and Bayliss' phases, according to table
127	FD	Hines and Bayliss' seriation
129	FD	Hines and Bayliss' seriation
131	MB	Hines and Bayliss' seriation
132	FD	Hines and Bayliss' seriation
133	FC	Hines and Bayliss' seriation
134	FD	Hines and Bayliss' seriation
137	FD-E	Dates from original report, adjusted for Hines and Bayliss' phases, according to table
138	FE	Original seriation, adjusted to take into account Hines and Bayliss' refined boundaries
138	FD-E	Dates from original report, adjusted for Hines and Bayliss' phases, according to table
139	FD-E	Dates from original report, adjusted for Hines and Bayliss' phases, according to table
141	FD-E	Dates from original report, adjusted for Hines and Bayliss' phases, according to table
144	FD-E	Dates from original report, adjusted for Hines and Bayliss' phases, according to table
146	FD-E	Dates from original report, adjusted for Hines and Bayliss' phases, according to table
155	FE	Original seriation, adjusted to take into account Hines and Bayliss' refined boundaries
155	FD-E	Dates from original report, adjusted for Hines and Bayliss' phases, according to table
156	FD-E	Dates from original report, adjusted for Hines and Bayliss' phases, according to table
157	FE	Hines and Bayliss' seriation
158	FD-E	Dates from original report, adjusted for Hines and Bayliss' phases, according to table
160	FE	Hines and Bayliss' seriation
161	FD-E	Dates from original report, adjusted for Hines and Bayliss' phases, according to table
204	FB	Original seriation, adjusted to take into account Hines and Bayliss' refined boundaries

204	FB	Dates from original report, adjusted for Hines and Bayliss' phases, according to table
217	pre-FB	Dates from original report, adjusted for Hines and Bayliss' phases, according to table
219	pre-FB	Dates from original report, adjusted for Hines and Bayliss' phases, according to table
221	pre-FB	Dates from original report, adjusted for Hines and Bayliss' phases, according to table
222	FB	Hines and Bayliss' seriation
230	FB	Hines and Bayliss' seriation
231	FC	Dates from original report, adjusted for Hines and Bayliss' phases, according to table
232	FC	Hines and Bayliss' seriation
239	pre-FB	Dates from original report, adjusted for Hines and Bayliss' phases, according to table
245	FD	Hines and Bayliss' seriation
247	FB	Original seriation, adjusted to take into account Hines and Bayliss' refined boundaries
247	FB	Dates from original report, adjusted for Hines and Bayliss' phases, according to table
250	FB	Hines and Bayliss' seriation
251	MD	Hines and Bayliss' seriation
254	pre-FB	Original seriation, adjusted to take into account Hines and Bayliss' refined boundaries
254	pre-FB	Dates from original report, adjusted for Hines and Bayliss' phases, according to table
255	pre-FB	Original seriation, adjusted to take into account Hines and Bayliss' refined boundaries
255	pre-FB	Dates from original report, adjusted for Hines and Bayliss' phases, according to table
257	pre-FB	Dates from original report, adjusted for Hines and Bayliss' phases, according to table
261	pre-FB	Dates from original report, adjusted for Hines and Bayliss' phases, according to table
263B	pre-FB	Dates from original report, adjusted for Hines and Bayliss' phases, according to table
264	MB	Hines and Bayliss' seriation
265B	MB	Hines and Bayliss' seriation
271	FB	Dates from original report, adjusted for Hines and Bayliss' phases, according to table
281	pre-FB	Dates from original report, adjusted for Hines and Bayliss' phases, according to table
290	pre-FB	Dates from original report, adjusted for Hines and Bayliss' phases, according to table
294	pre-FB	Dates from original report, adjusted for Hines and Bayliss' phases, according to table
296	FB	Original seriation, adjusted to take into account Hines and Bayliss' refined boundaries
296	FB	Dates from original report, adjusted for Hines and Bayliss' phases, according to table
297	MB	Hines and Bayliss' seriation
302	FB	Dates from original report, adjusted for Hines and Bayliss' phases, according to table
303A	FC	Dates from original report, adjusted for Hines and Bayliss' phases, according to table

306	pre-FB	Dates from original report, adjusted for Hines and Bayliss' phases, according to table
308	pre-FB	Dates from original report, adjusted for Hines and Bayliss' phases, according to table
331	FB	Hines and Bayliss' seriation
334	pre-FB	Dates from original report, adjusted for Hines and Bayliss' phases, according to table
336	FB	Hines and Bayliss' seriation
339	FB	Hines and Bayliss' seriation
344	pre-FB	Dates from original report, adjusted for Hines and Bayliss' phases, according to table
347	FB	Original seriation, adjusted to take into account Hines and Bayliss' refined boundaries
347	FB	Dates from original report, adjusted for Hines and Bayliss' phases, according to table
349	pre-FB	Dates from original report, adjusted for Hines and Bayliss' phases, according to table
351B	pre-FB	Dates from original report, adjusted for Hines and Bayliss' phases, according to table
353	FB	Hines and Bayliss' seriation
354	FB	Hines and Bayliss' seriation
355	pre-FB	Dates from original report, adjusted for Hines and Bayliss' phases, according to table
360	FC	Original seriation, adjusted to take into account Hines and Bayliss' refined boundaries
360	FC	Dates from original report, adjusted for Hines and Bayliss' phases, according to table
372	FB	Original seriation, adjusted to take into account Hines and Bayliss' refined boundaries
372	FB	Dates from original report, adjusted for Hines and Bayliss' phases, according to table
373	FB	Hines and Bayliss' seriation
375	MC	Hines and Bayliss' seriation
376	FD	Hines and Bayliss' seriation
381	MB	Hines and Bayliss' seriation
391A	FE	Hines and Bayliss' seriation
391B	FB	Hines and Bayliss' seriation
392	FB	Dates from original report, adjusted for Hines and Bayliss' phases, according to table
398	FB	Dates from original report, adjusted for Hines and Bayliss' phases, according to table
407	FB	Original seriation, adjusted to take into account Hines and Bayliss' refined boundaries
407	FB	Dates from original report, adjusted for Hines and Bayliss' phases, according to table
408	pre-FB	Dates from original report, adjusted for Hines and Bayliss' phases, according to table
409	pre-FB	Original seriation, adjusted to take into account Hines and Bayliss' refined boundaries
409	pre-FB	Dates from original report, adjusted for Hines and Bayliss' phases, according to table
412	FB	Hines and Bayliss' seriation
413	FD	Hines and Bayliss' seriation
414	MB	Hines and Bayliss' seriation

417	FB	Original seriation, adjusted to take into account Hines and Bayliss' refined boundaries
417	FB	Dates from original report, adjusted for Hines and Bayliss' phases, according to table
419	FB	Original seriation, adjusted to take into account Hines and Bayliss' refined boundaries
419	FB	Dates from original report, adjusted for Hines and Bayliss' phases, according to table
423	MB	Hines and Bayliss' seriation
426	FB	Dates from original report, adjusted for Hines and Bayliss' phases, according to table
428	FB	Dates from original report, adjusted for Hines and Bayliss' phases, according to table
433	pre-FB	Dates from original report, adjusted for Hines and Bayliss' phases, according to table
435	FB	Dates from original report, adjusted for Hines and Bayliss' phases, according to table
437	MB	Hines and Bayliss' seriation
C	MB	Hines and Bayliss' seriation
D	MB	Hines and Bayliss' seriation
F	FD	Hines and Bayliss' seriation

1.3.2. Mucking

The following table provides details of all the dated graves from Mucking, and how they were dated. Those marked with an asterisk are the graves where there were notable contradictions between the dates based on Hines & Bayliss 2013, and those of the original report. Those graves are discussed further below.

Grave	Phase	Explanation
99	FB	Leading type: BR1-b
107	MB-C	Leading type: SP2-a1a2
114	MB	Leading type: SB3-b2
120	MB	Hines and Bayliss' seriation
121	MB	Leading type: SB3-b1
122	MB	Leading type: SB3-b1
131	MB	Leading type: SB3-b1
159	MB	Leading type: SB3-a, SP2-a2b2
243	MA-B	Leading type: SB1-a
244	MA-B	Leading type: SP5
245	MB	Leading type: SB3-b1
246	FB-D	Leading type: Br3-c
248	MA-B	Leading type: SB1-a, SP2-b1b
249	MA	Leading types: BU2-a
272	1aii/aiii	Original seriation*
276	1biii	Original seriation*
282	MB	Leading type: BU2-b
283	FB	Leading type: BE1-MelonBl
334	FB	Leading type:BE1-MelonBl
340	FB	Leading type: BE1-MelonY-G
343	MA-B	Leading type: SP2-a1a1
493	1aii/aiii	Original seriation*

535	MB-C	Leading type: SP2-a2a*
547	MB	Leading type: SB3-b1, SP5
548	FD-E	Leading types: WR1-C, WR4*
554	MA-B	Leading types: SB1-b, SP2-b1b
556	MB	Leading types: SB3-a, SP2-b1a2
557	MD	Hines and Bayliss' seriation
562	MA	Leading type: BU2-a
572	MA	Leading type: SP2-b1a4
588	MB	Hines and Bayliss' seriation
600	MA	Hines and Bayliss' seriation
602	MA	Leading type: BU2-a
608	FC-D	Leading types: WR4, BE1-Koch34Ye
618	MB	Leading types: SB3-b1, SP2-b1b, Bu2-d*
620	MA-B	Cut by 626
626	MA-B	Leading types: SP2-b1a2
629	MB-C	Leading types: SP2-a2a
643	FB	Leading type: Part of BR1-b
648	FB	Leading type: BE1-MelonBl, BE1-Koch20Wh
682	MC-E	Leading types: SW3- b, SP4
730	MA-B	Leading type: SP2-b1a1
731	MA-B	Leading type: SP2-b1a1
764	MB-C	Leading type: SP2-a1a2
766	MB	Leading type: SP2-b1a3
777	MB-C	Leading type: SP2-a2a
814	FB	Leading type: Part of BR1-F
841	MB-C	Leading type: SP1-a1*
842	MA	Leading types: BU2-a, small-long brooch
843	FB	Leading type: BR1-d
844	1aii/aiii	Original seriation*
845	1aiii	Disc brooch*
846	FB	Hines and Bayliss' seriation*
850	MA	Leading type: SP2-b1a4
858	MB	Leading type: BU2-c, SP2-a1b2
860	1aiii	Small long-brooches, pot dated to Spong Hill phase A, finger-rings*
875	1ai/aii	One of the earliest female burials, could date to early in the fifth century (Lucy and Evans 2016, 436)*
877	MA-B	Leading type: SP2-b1a1
948	MB	Hines and Bayliss' seriation
950	MC	Hines and Bayliss' seriation
954	MC	Hines and Bayliss' seriation
962	FB	Hines and Bayliss' seriation*
965	MC	Hines and Bayliss' seriation
979	MA-B	Leading type: SP5. It had a late Roman military belt-set, thus one of the most convincing early-mid-5th century graves (Lucy and Evans 2016, 436)
989	1ai/aii	One of the earliest female burials, could date to early in the fifth century (Lucy and Evans 2016, 436)*
992	1ai/aii	Original seriation*
961A	ME	Hines and Bayliss’ seriation
961A	ME	Hines and Bayliss' seriation

Grave 272 – The shield boss (SB2-b) and spear head (SP2-a1a2) suggest that this belongs to phase MB. However, the original seriation put it slightly earlier in 1aii/aiii, although the shield boss was not taken into account when assigning this date. Due to the problems with dating weapons using Hines and Bayliss' typologies, the original date was used.

Grave 276 – The spearhead (SP2-a1a2) places this into phase MB-C, but the original seriation places it into phase 1biii/2. Due to the problems with dating weapons using Hines and Bayliss' typologies, the original date was used.

Grave 493 – The spear head (SP2-a1a2) puts it in Hines and Bayliss' phase MB-C. However, the original seriation places it in phase 1aii/aiii. Due to the problems with dating weapons using Hines and Bayliss' typologies, the original date was used.

Grave 548 – On the basis of a pennanular brooch with animal head terminals, the original report placed this in phase aiii, the second half of the fifth century. However, the grave also contains wire slip-knot rings with beads (WR4), which Hines and Bayliss place in phases FC-E. It was concluded that the pennanular brooch was of too rare a type to be able to pinpoint its date with any precision, and so Hines and Bayliss' date was used.

Grave 535 – Spearhead (SP2-a2a) puts this into phase MB-C. However, the original chronology puts it into phase 1biii/2. Given that the spearhead was a distinctive type, Hines and Bayliss' date was used.

Grave 618 – The spearhead, shield and buckle all date to phase MB. However, the sword pommel, SW3-b, is dated to MD-F. The original seriation placed this grave in phase 1biii/2, the late-sixth to seventh century, based primarily on the sword pommel; all other object types were originally considered more long-lived. Given the agreement between the objects dated in Hines and Bayliss' scheme, their dating was used.

Grave 841 – The spearhead (SP1-a1) places this grave in phase MB-C, but the original seriation places it in phase 1biii/2. However, this late position in the seriation is on the basis of a buckle that is very badly preserved. The spearhead type is also present in the seriation in earlier stages, and so the original seriation was ignored, and the Hines and Bayliss date relied upon.

Grave 844 – The spearhead (SP2-a2a) places this into phases MB-C, but the original seriation places it in phase 1aii/aiii. However, the buckle and tweezers appear to be fifth century. Due to the problems with dating weapons using Hines and Bayliss' typologies, the original date was preferred.

Grave 845 – Some of the beads present in this grave (particularly BE1-MelonBl, and BE1-MelonY-G) suggest that this grave belongs to FB. However the original report placed it in phase aiii, on the basis of the disc brooch, an early type which was not included in Hines and Bayliss' study; given how close to the start of the sequence the melon beads fall, could they could also have been used earlier. Because the disc brooch was not taken into account in Hines and Bayliss' work, the original date was used.

Grave 846 – This was also included in Hines and Bayliss' seriation, dated to phase FB. However, the original seriation placed it in phase 1biii/2. Hines and Bayliss' date was used.

860 – As with Grave 845, the beads (e.g. BE1-MelonBl) suggest phase FB, but the small-long brooches suggest phase aiii. On discussion, the pot, also suggests a fifth century date, dating to Spong Hill Phase A, and the finger rings also suggest an early date. The date of phase aiii was used.

875 – The pennanular brooch Br3-f dates to phase FD-E, according to Hines and Bayliss. However, this grave is put into phase 1ai/aii in the original seriation. It was decided that Hines

and Bayliss' dating of the pennanular brooch was inaccurate, and that in this case, the original date should be relied upon, as the finger ring and the bracelet in the grave were some of the earliest artefacts in the cemetery, which could date to early in the fifth century (Lucy and Evans 2016, 436).

Grave 962 – This was included in Hines and Bayliss seriation, to phase FB. However, the original report dates it to phase 1biii/2, late 6th-7th century, on the basis of the beads. Given the increased reliability of seriation over leading type dating, Hines and Bayliss' date was relied upon.

Grave 989 – The beads (BE1-MelonBl, BE1-Koch20Wh) suggest that this belongs in phase FB. However, the bow brooches were used in the original report to place it in phase 1ai/aii. Because of the absence of the bow brooches from Hines and Bayliss' work, as discussed above, the original, early date was preferred. This was one of the earliest female burials, and could date to early in the fifth century (Lucy and Evans 2016, 436).

Grave 992 – The brooch Br3-f suggested a date of FD-E. However, the original date as suggested by the original seriation was 1ai/aii. As discussed above, the date of this particular brooch seems to be unreliable, and so will be ignored in favour of the original dating.

1.3.3. Edix Hill

Grave	Phase	Explanation
2b	MB-C	Contemporary to Grave 2c
2c	MB-C	Leading type: SB3-b3
3	I	Original phasing, adjusted to take into account Hines and Bayliss's phases
5	FB	Hines and Bayliss' seriation
6	<FB	Earlier than Grave 5
7	MA	Hines and Bayliss' seriation
9a	MB-C	Leading type: SP2-b1a3
10b	I	Original phasing
12	MD	Hines and Bayliss' seriation
13b	I	Original phasing, adjusted to take into account Hines and Bayliss's phases
14	FB	Hines and Bayliss' seriation
15	FB	Hines and Bayliss' seriation
17	>II	Later than Grave 18
18b	II	Original phasing, adjusted to take into account Hines and Bayliss's phases
19a	<FB	Earlier than Grave 15
19b	I	Original phasing, adjusted to take into account Hines and Bayliss's phases
20	I	Original phasing, adjusted to take into account Hines and Bayliss's phases
27	II	Original phasing, adjusted to take into account Hines and Bayliss's phases
28	MA	Hines and Bayliss' seriation

29a	MB	Leading type: SB3-a
29b	MA-B	Contemporary to Grave 29a
33	MA	Hines and Bayliss' seriation
34	MB-C	Leading type: SB3-b3
36	MA-B	Leading type: SP2-b2
37	<MA	Earlier than 51*
38	I	Original phasing, adjusted to take into account Hines and Bayliss's phases
39	FB	Leading type: Bu2-d
46	MA	Hines and Bayliss' seriation
47	I	Original phasing, adjusted to take into account Hines and Bayliss's phases
48	MC	Hines and Bayliss' seriation
49	<I	Earlier than Grave 47
50	MB-C	Leading type: SP2-b1a3
51	MA	Hines and Bayliss' seriation*
53	I	Original phasing, adjusted to take into account Hines and Bayliss's phases
54	II	Original phasing, adjusted to take into account Hines and Bayliss's phases
60	II	Original phasing, adjusted to take into account Hines and Bayliss's phases
61	FB	Hines and Bayliss' seriation
62	I	Original phasing, adjusted to take into account Hines and Bayliss's phases
66a	MA-B	Leading type: SP2-b1b
66b	FB	Leading type: BE1-MelonBl
68	I	Original phasing, adjusted to take into account Hines and Bayliss's phases
69	I	Original phasing, adjusted to take into account Hines and Bayliss's phases
72	I	Original phasing, adjusted to take into account Hines and Bayliss's phases
74	I	Original phasing, adjusted to take into account Hines and Bayliss's phases
76	MA-B	Leading type: SP5
77	II	Original phasing, adjusted to take into account Hines and Bayliss's phases
78	I	Original phasing, adjusted to take into account Hines and Bayliss's phases
82	I	Original phasing, adjusted to take into account Hines and Bayliss's phases
83	FB	Hines and Bayliss' seriation
84	I	Original phasing, adjusted to take into account Hines and Bayliss's phases
88	MA	Hines and Bayliss' seriation

91	FE	Hines and Bayliss' seriation
93	I	Original phasing, adjusted to take into account Hines and Bayliss's phases
95	I	Original phasing, adjusted to take into account Hines and Bayliss's phases
96a	FB	Leading type: BE1-MelonBl
96b	FB	Contemporary with Grave 96a
97	II	Original phasing, adjusted to take into account Hines and Bayliss's phases
98	MA-B	Leading type: SP2-b1a1
106a	I	Original phasing, adjusted to take into account Hines and Bayliss's phases
107	I	Original phasing, adjusted to take into account Hines and Bayliss's phases
108	I	Original phasing, adjusted to take into account Hines and Bayliss's phases
109b	II	Original phasing, adjusted to take into account Hines and Bayliss's phases
110	I	Original phasing, adjusted to take into account Hines and Bayliss's phases
114	I	Original phasing, adjusted to take into account Hines and Bayliss's phases

There was only one contradiction, between the original phasing and Hines and Bayliss's chronology, in grave 51. Originally, this was assigned to phase II, on the basis of the spearhead, and grave 37, which is intersected by grave 51 was also assigned to this later phase. In Hines and Bayliss's seriation, however, grave 51 is one of the earliest, falling into phase MA, and thus grave 37 must also be early under this scheme. In this instance, the earlier date was used.

1.4. Grave Good Use in Cemeteries

Cemetery	Number of Graves	Mean Number of Grave Goods	Percentage of Graves Containing											
			Dress Accessories	Jewellery	Personal Accessories	Fittings	Weapons	Cosmetics	Vessels	Tools	Amulets	Animal Remains	Coins	Unfurnished Graves
Addingham	80	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	100.00
Ailcy Hill	45	0.09	2.22	0.00	4.44	2.22	0.00	0.00	0.00	0.00	0.00	0.00	0.00	93.33
Alach	17	4.65	58.82	17.65	47.06	29.41	41.18	23.53	17.65	29.41	0.00	17.65	5.88	23.53
Aldingen	24	4.04	79.17	33.33	70.83	29.17	25.00	12.50	16.67	0.00	0.00	4.17	8.33	12.50
Altenerding	1341	2.19	53.54	26.25	27.89	27.74	14.39	10.22	6.64	5.52	0.00	1.64	0.89	26.99
Alton	41	3.10	39.02	34.15	68.29	24.39	26.83	9.76	7.32	4.88	0.00	2.44	2.44	24.39
Ammern	80	1.18	23.75	16.25	22.50	18.75	7.50	8.75	2.50	0.00	0.00	2.50	0.00	55.00
Apple Down	115	1.63	33.04	17.39	41.74	19.13	14.78	3.48	4.35	2.61	0.00	0.00	4.35	31.30
Arlon	19	6.32	68.42	52.63	57.89	73.68	21.05	31.58	42.11	21.05	5.26	5.26	15.79	0.00
Arrentieres	18	1.11	16.67	5.56	11.11	22.22	5.56	5.56	33.33	0.00	0.00	0.00	0.00	55.56
Aschheim	47	1.26	19.15	17.02	2.13	21.28	6.38	4.26	2.13	4.26	2.13	4.26	2.13	68.09
Aubing	623	2.03	49.76	25.04	32.58	28.09	14.45	14.45	2.89	5.14	0.64	1.28	1.28	25.68
Aux Sarrasins (Evans)	39	-	-	-	-	-	-	-	-	-	-	-	-	41.03
Bad Mingolsheim	12	3.67	50.00	58.33	33.33	8.33	16.67	50.00	33.33	0.00	8.33	33.33	8.33	0.00
Banneville-la-Campagne	72	1.63	48.61	11.11	31.94	37.50	5.56	4.17	8.33	1.39	1.39	0.00	0.00	27.78
Barbing-Irlmauth	37	3.27	70.27	21.62	40.54	29.73	16.22	10.81	24.32	10.81	0.00	0.00	0.00	10.81
Bärenthal	69	0.03	0.00	0.00	2.90	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	97.10
Bargen	40	4.65	75.00	45.00	70.00	37.50	27.50	40.00	47.50	22.50	5.00	0.00	0.00	10.00
Basel-Kleinhuningen	111	2.58	53.15	19.82	40.54	31.53	30.63	16.22	46.85	9.01	1.80	1.80	6.31	18.02

Beacon Hill	37	0.08	0.00	0.00	5.41	2.70	0.00	0.00	0.00	0.00	0.00	0.00	0.00	91.89
Beakesbourne II	36	2.61	50.00	30.56	63.89	22.22	11.11	0.00	11.11	8.33	5.56	0.00	5.56	25.00
Beckery Chapel	57	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	100.00
Beckford	136	2.48	42.65	32.35	38.97	20.59	27.21	5.15	4.41	2.21	1.47	2.21	4.41	19.12
Beckum	63	3.62	34.92	36.51	49.21	38.10	41.27	14.29	39.68	15.87	0.00	3.17	3.17	7.94
Bel-Air	345	1.01	32.17	9.57	12.46	15.94	6.96	2.90	3.19	2.61	0.29	0.29	1.74	53.62
Bergeijk-Fazantlaan	120	2.36	38.33	32.50	29.17	51.67	14.17	0.83	31.67	2.50	0.00	0.00	1.67	14.17
Bergh Apton	63	3.95	52.38	41.27	65.08	49.21	22.22	0.00	22.22	0.00	0.00	0.00	0.00	9.52
Berghausen	119	2.04	42.02	20.17	38.66	33.61	15.97	11.76	9.24	3.36	0.84	0.84	0.00	35.29
Berinsfield	75	2.79	41.33	33.33	56.00	29.33	24.00	6.67	14.67	2.67	4.00	0.00	4.00	18.67
Bifrons, Patrixbourne	95	3.31	51.58	36.84	58.95	38.95	15.79	3.16	5.26	4.21	4.21	1.05	4.21	22.11
Blacknall Field	103	3.06	43.69	36.89	45.63	26.21	18.45	12.62	10.68	2.91	0.00	16.50	3.88	19.42
Bloodmoor Hill	28	1.21	14.29	14.29	28.57	17.86	0.00	7.14	3.57	7.14	0.00	0.00	0.00	53.57
Bloville	96	1.73	38.54	13.54	23.96	31.25	15.63	0.00	30.21	4.17	0.00	0.00	0.00	34.38
Bonnières	105	1.26	13.33	2.86	6.67	23.81	9.52	0.95	62.86	0.00	0.00	0.95	0.95	24.76
Borsbeek	42	2.24	35.71	38.10	28.57	38.10	16.67	2.38	21.43	11.90	0.00	0.00	2.38	38.10
Boss Hall	24	4.88	58.33	33.33	66.67	41.67	29.17	8.33	25.00	4.17	0.00	0.00	8.33	12.50
Braives	82	1.24	23.17	7.32	15.85	24.39	13.41	1.22	17.07	1.22	0.00	0.00	1.22	65.85
Breach Down	85	1.36	21.18	12.94	30.59	12.94	18.82	0.00	14.12	0.00	0.00	1.18	2.35	37.65
Bréal-sous-Vitré	147	0.16	0.00	0.00	3.40	10.20	0.00	0.00	1.36	0.00	0.00	0.00	0.00	85.71
Bremen-Mahndorf I	47	2.94	59.57	31.91	53.19	42.55	12.77	0.00	21.28	0.00	0.00	0.00	2.13	17.02
Bremen-Mahndorf II	187	0.11	3.21	0.53	1.60	3.21	0.00	0.00	1.07	1.07	0.00	0.00	0.00	93.05
Buchères	142	0.24	9.15	3.52	2.11	7.04	1.41	0.00	0.00	0.00	0.00	0.00	0.00	84.51
Buchten	28	0.04	0.00	0.00	0.00	3.57	0.00	0.00	0.00	0.00	0.00	0.00	0.00	96.43
Buggingen	54	1.20	20.37	7.41	14.81	11.11	5.56	5.56	3.70	5.56	1.85	0.00	1.85	68.52

Bulles	434	2.44	47.93	15.90	33.87	34.56	14.52	2.76	52.53	1.84	0.23	0.23	4.61	26.27
Burgh Castle	136	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	99.26
Burwell	125	1.26	19.20	12.00	39.20	12.80	0.80	5.60	3.20	2.40	1.60	1.60	1.60	48.80
Butler's Field	201	3.00	34.33	33.33	52.74	18.91	15.42	7.96	8.96	7.46	2.99	26.37	4.48	18.91
Buttermarket	32	1.75	28.13	12.50	46.88	21.88	3.13	0.00	6.25	6.25	3.13	0.00	6.25	43.75
Caister-on-Sea	147	0.05	0.00	1.36	0.00	0.00	2.04	0.00	0.68	0.00	0.00	0.00	0.68	95.24
Camerton	105	0.70	5.71	11.43	30.48	1.90	1.90	1.90	0.95	4.76	0.95	1.90	3.81	53.33
Candes-Saint-Martin	62	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	100.00
Castledyke South	90	3.28	47.78	34.44	54.44	21.11	8.89	11.11	21.11	10.00	7.78	13.33	1.11	16.67
Chamberlain's Barn	68	1.10	19.12	13.24	36.76	4.41	2.94	0.00	13.24	2.94	0.00	0.00	0.00	44.12
Chaniers	219	0.48	5.94	6.39	0.91	7.76	0.00	0.00	25.57	0.00	0.00	0.00	0.00	61.64
Chanteloup-en-brie	44	0.05	2.27	0.00	0.00	2.27	0.00	0.00	0.00	0.00	0.00	0.00	0.00	95.45
Chartham Down	61	1.20	16.39	11.48	32.79	4.92	1.64	1.64	11.48	1.64	1.64	3.28	0.00	45.90
Chémeré	162	0.23	3.09	8.02	4.94	3.70	1.85	0.00	0.00	0.00	0.00	0.00	0.62	83.33
Ciply	761	2.23	37.84	21.29	25.23	40.60	16.56	3.68	41.52	4.99	1.05	7.49	1.31	12.22
Cleatham	55	3.15	61.82	30.91	58.18	25.45	12.73	5.45	16.36	1.82	0.00	7.27	0.00	16.36
Clos d'Aubonne	583	0.32	8.92	2.40	1.72	13.89	0.34	0.34	0.34	0.69	0.17	0.17	1.20	78.22
Coisy	20	1.55	20.00	5.00	20.00	20.00	10.00	0.00	60.00	0.00	0.00	0.00	0.00	20.00
Cook Street, Southampton	24	0.21	0.00	0.00	4.17	8.33	0.00	0.00	0.00	0.00	0.00	0.00	0.00	91.67
Crayke	24	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	100.00
Cuignières	152	1.17	23.68	2.63	3.29	17.11	7.89	1.97	50.66	0.66	0.00	0.00	0.00	42.11
Cutry	231	4.11	64.94	24.68	48.92	41.56	35.50	29.44	38.10	6.49	0.87	0.43	16.02	15.58
Dachwig	40	1.63	35.00	22.50	17.50	15.00	20.00	5.00	5.00	7.50	0.00	10.00	0.00	32.50
Deersheim	28	6.29	46.43	50.00	28.57	64.29	25.00	10.71	85.71	32.14	0.00	25.00	0.00	3.57

Dirmstein	312	3.28	36.22	30.13	38.46	56.73	19.87	33.97	35.26	6.73	0.64	12.18	3.21	18.59
Donaueschingen	241	1.49	27.80	15.35	25.73	29.88	9.54	0.00	0.41	1.66	0.00	15.77	0.41	43.57
Dover Buckland	387	3.12	39.02	26.61	61.76	28.68	15.50	6.46	16.28	6.20	1.03	2.33	4.65	23.26
Eccles	205	0.24	2.44	0.00	8.78	2.93	1.46	1.46	0.49	1.46	0.00	0.00	1.46	87.32
Edix Hill	80	3.31	61.25	37.50	72.50	38.75	40.00	13.75	8.75	2.50	1.25	1.25	2.50	12.50
Eichstetten	169	2.40	63.31	24.26	41.42	27.81	31.36	20.71	9.47	10.06	1.18	6.51	4.14	19.53
Eick	134	3.60	49.25	20.15	36.57	39.55	29.10	8.96	60.45	7.46	0.00	3.73	5.22	18.66
Elgg	202	3.00	63.37	19.80	43.56	46.04	26.73	22.77	7.43	9.90	0.00	0.99	4.95	19.31
Empingham	151	3.54	59.60	36.42	49.01	27.81	26.49	5.30	11.92	4.64	1.32	2.65	0.66	17.22
Engelsmanhoven	60	2.42	21.67	16.67	21.67	38.33	35.00	0.00	51.67	1.67	0.00	0.00	1.67	18.33
Ennery	61	3.36	47.54	19.67	42.62	37.70	19.67	18.03	26.23	6.56	1.64	22.95	24.59	14.75
Entrammes	17	0.06	5.88	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	94.12
Epolding-Muhlthal	104	1.44	36.54	19.23	26.92	22.12	10.58	9.62	1.92	0.00	0.00	0.00	2.88	39.42
Epolding-Muhlthal Kirche	139	0.01	0.00	0.00	0.00	0.72	0.00	0.00	0.00	0.00	0.00	0.72	0.00	98.56
Eschborn	48	3.40	45.83	33.33	33.33	18.75	8.33	18.75	47.92	14.58	0.00	0.00	2.08	29.17
Esslingen	71	0.08	5.63	1.41	0.00	0.00	0.00	0.00	0.00	0.00	1.41	0.00	0.00	91.55
Fellbach-Schmiden	37	4.35	72.97	27.03	51.35	45.95	32.43	40.54	29.73	8.11	2.70	13.51	0.00	2.70
Finglesham	193	2.31	37.82	17.62	55.44	12.95	10.88	4.66	20.21	11.40	1.04	1.55	0.00	30.57
Folx-les-Caves	30	3.93	46.67	13.33	33.33	50.00	46.67	13.33	50.00	20.00	0.00	0.00	0.00	30.00
Fridingen	101	33.64	54.46	23.76	52.48	53.47	37.62	15.84	6.93	10.89	0.00	0.99	1.98	11.88
Giengen an der Brenz	44	3.36	65.91	13.64	59.09	52.27	45.45	9.09	11.36	4.55	6.82	11.36	0.00	15.91
Gilton Ash	112	3.72	44.64	27.68	79.46	49.11	50.00	1.79	16.96	2.68	0.00	0.00	4.46	8.93
Goudelancourt-les-Pierrepont	117	2.48	45.30	16.24	36.75	39.32	21.37	0.85	43.59	5.13	0.00	3.42	4.27	28.21
Grande Oye	507	0.74	23.08	7.50	8.88	16.37	16.77	0.59	0.00	1.18	0.39	0.20	1.18	63.12
Great Chesterford	120	3.05	41.67	30.00	45.83	51.67	15.00	3.33	22.50	3.33	1.67	0.00	6.67	16.67

Grossschwabhausen	21	1.33	19.05	9.52	47.62	33.33	4.76	0.00	0.00	4.76	0.00	9.52	0.00	33.33
Güttingen	148	3.01	50.68	31.76	44.59	48.65	20.27	20.95	6.76	4.73	0.68	1.35	3.38	31.76
Hamoir	272	2.46	50.00	12.87	34.56	39.71	27.21	1.84	34.56	1.10	0.74	0.00	0.00	32.72
Harford Farm	45	2.27	31.11	15.56	53.33	22.22	2.22	20.00	2.22	11.11	2.22	0.00	2.22	28.89
Haudricourt	98	1.08	26.53	3.06	13.27	18.37	5.10	3.06	28.57	0.00	0.00	0.00	1.02	42.86
Hégenheim	46	3.11	45.65	32.61	43.48	0.00	30.43	30.43	30.43	0.00	2.17	28.26	4.35	39.13
Heidenheim an der Brenz	24	0.42	8.33	0.00	8.33	4.17	8.33	0.00	0.00	4.17	0.00	0.00	0.00	83.33
Hérouvillette	70	2.31	48.57	14.29	22.86	40.00	10.00	4.29	12.86	1.43	4.29	0.00	7.14	32.86
Hières-sur-Amby	22	0.18	4.55	0.00	0.00	9.09	0.00	0.00	4.55	0.00	0.00	0.00	0.00	81.82
Hockenheim	27	4.11	59.26	40.74	40.74	48.15	33.33	51.85	33.33	11.11	3.70	3.70	0.00	11.11
Holborough	39	0.82	10.26	0.00	15.38	7.69	10.26	0.00	7.69	5.13	0.00	0.00	0.00	76.92
Hollogne-aux-Pierres	16	4.00	62.50	25.00	43.75	50.00	50.00	31.25	56.25	6.25	0.00	0.00	0.00	0.00
Hordain	393	1.20	24.43	13.49	17.30	8.65	11.20	2.54	17.81	3.05	0.00	0.00	0.76	58.78
Jeoffrécourt	500	0.85	21.40	7.80	9.80	16.80	3.40	2.20	13.20	1.00	0.00	2.40	1.20	59.60
Kelheim-Gmund	56	4.04	66.07	33.93	64.29	53.57	33.93	41.07	19.64	8.93	0.00	3.57	3.57	8.93
King Harry Lane	38	1.53	15.79	7.89	50.00	18.42	10.53	0.00	5.26	0.00	5.26	0.00	5.26	39.47
King's Hostel	18	1.00	5.56	11.11	22.22	11.11	5.56	0.00	5.56	11.11	0.00	5.56	5.56	72.22
Kingston Down	319	2.15	20.38	17.55	56.74	46.71	13.79	3.76	10.03	1.57	1.25	0.31	1.57	25.71
Kirchheim am Ries	482	2.45	62.24	23.44	43.36	34.85	22.41	4.98	5.60	3.94	0.00	5.19	0.41	17.84
Kleinlangheim	156	4.31	52.56	30.77	51.28	33.33	18.59	33.33	39.10	25.00	0.64	26.92	2.56	20.51
Klepsau	66	6.97	71.21	45.45	69.70	59.09	42.42	68.18	56.06	25.76	3.03	6.06	7.58	7.58
Koenigsmacker	41	3.17	31.71	31.71	29.27	12.20	29.27	26.83	46.34	7.32	0.00	0.00	4.88	36.59
Koln-Junkersdorf	548	0.51	7.12	4.20	6.02	2.55	2.19	2.37	6.57	1.46	0.00	0.00	1.46	3.83

Koln-Müngersdorf	149	3.45	48.32	27.52	36.91	32.89	16.78	19.46	35.57	8.72	0.00	2.01	7.38	2.01
Koln-St. Severin	116	1.99	21.55	11.21	15.52	13.79	6.90	8.62	19.83	6.03	0.86	0.00	10.34	57.76
Kosingen	22	3.64	63.64	45.45	40.91	31.82	22.73	13.64	36.36	13.64	0.00	4.55	0.00	0.00
Krefeld-Gellep	539	1.25	16.70	8.91	12.24	13.73	13.91	2.60	19.29	4.45	0.00	0.00	3.53	61.78
La Mouline	203	0.25	8.37	2.46	1.97	7.88	0.99	0.49	0.49	0.00	0.00	0.00	0.00	87.19
La Pierre Bat	35	0.91	28.57	2.86	14.29	2.86	8.57	2.86	22.86	0.00	0.00	0.00	0.00	51.43
L'Abbaye de Saint Evre	21	0.81	19.05	9.52	9.52	19.05	4.76	4.76	0.00	0.00	0.00	0.00	0.00	71.43
Lamersdorf	87	1.95	20.69	13.79	27.59	12.64	13.79	8.05	50.57	10.34	0.00	2.30	1.15	29.89
Largillay-Marsonnay	55	0.18	10.91	1.82	1.82	0.00	1.82	0.00	0.00	0.00	0.00	0.00	1.82	87.27
Lauterhofen	87	1.83	31.03	19.54	37.93	21.84	17.24	12.64	1.15	4.60	1.15	1.15	1.15	47.13
Le Champ des Vis (Evans)	151	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	100.00
Le Martray, Giberville	377	0.69	11.94	10.34	10.08	16.18	1.86	1.59	9.55	0.80	0.00	0.00	0.00	66.05
Le Trillet a Meyzieu	32	0.66	9.38	3.13	0.00	12.50	0.00	0.00	18.75	0.00	0.00	0.00	6.25	65.63
Lent	121	0.72	13.22	6.61	9.92	16.53	5.79	0.83	4.13	1.65	0.00	1.65	0.83	71.07
Liebenau	206	1.96	37.86	24.76	31.07	18.93	13.59	2.43	12.14	4.85	0.00	2.43	0.49	38.83
Longueil-Annel	444	0.42	8.33	2.48	4.50	11.49	1.13	0.68	10.59	0.00	0.00	0.45	0.90	72.52
Lyminge II	52	2.50	55.77	17.31	48.08	25.00	9.62	7.69	11.54	0.00	1.92	1.92	3.85	30.77
Marina Drive	42	1.71	7.14	21.43	42.86	11.90	9.52	2.38	4.76	14.29	11.90	4.76	0.00	30.95
Mars-la-Tour	32	1.09	12.50	9.38	18.75	15.63	0.00	12.50	9.38	0.00	0.00	0.00	15.63	59.38
Melbourn	53	2.21	30.19	20.75	60.38	28.30	11.32	7.55	11.32	5.66	0.00	0.00	0.00	22.64
Mels	39	0.23	5.13	5.13	0.00	0.00	0.00	7.69	0.00	0.00	0.00	0.00	2.56	84.62
Merdingen	282	1.83	34.04	26.60	30.14	37.23	13.12	8.16	4.61	2.84	0.00	1.77	1.42	29.08
Metzervisse	57	1.51	24.56	7.02	21.05	31.58	10.53	8.77	3.51	0.00	1.75	3.51	1.75	47.37
Mill Hill	74	3.92	52.70	36.49	71.62	37.84	24.32	14.86	10.81	10.81	0.00	0.00	1.35	16.22

Mindelheim	146	2.17	49.32	19.86	32.19	33.56	24.66	4.11	4.79	2.74	0.68	3.42	1.37	27.40
Minster-in-Sheppey	37	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	100.00
Mollans	80	0.24	10.00	2.50	1.25	5.00	1.25	0.00	0.00	1.25	0.00	0.00	1.25	85.00
Monkton	35	1.51	22.86	17.14	37.14	11.43	17.14	2.86	14.29	2.86	0.00	2.86	0.00	37.14
Montataire	292	0.69	11.99	6.85	11.64	24.32	1.71	0.34	3.42	0.34	0.00	0.00	1.71	60.27
Moreuil	112	1.27	14.29	6.25	11.61	25.89	14.29	1.79	39.29	3.57	0.00	0.00	0.00	37.50
Morning Thorpe	317	3.52	52.37	28.08	54.26	34.07	20.82	5.99	27.44	1.58	0.32	0.95	0.95	18.30
Mucking	342	2.49	47.66	21.93	51.46	17.84	21.93	7.60	15.50	3.22	0.29	0.58	1.17	22.51
Mulhausen	23	0.87	21.74	13.04	4.35	8.70	4.35	4.35	13.04	0.00	0.00	0.00	0.00	65.22
Munzingen	236	1.87	40.68	29.66	39.41	22.46	14.41	2.12	7.63	2.54	0.42	0.85	0.42	28.39
Nazeingbury	171	0.02	0.00	0.58	0.58	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.58	98.83
Neresheim	56	2.18	57.14	23.21	26.79	19.64	12.50	3.57	8.93	5.36	1.79	3.57	1.79	35.71
Neuburg an der Donau	185	0.00	0.00	0.00	0.00	0.00	3.78	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Norton	79	3.72	55.70	45.57	55.70	26.58	11.39	6.33	16.46	2.53	2.53	1.27	1.27	13.92
Nouvion-en-Ponthieu	229	1.15	19.21	11.35	3.93	13.97	15.72	2.62	33.19	3.93	0.44	0.00	0.00	44.10
Obbicht-Oude Molen	65	3.03	32.31	13.85	24.62	35.38	33.85	3.08	61.54	3.08	0.00	1.54	1.54	12.31
Oosterbeintum	47	2.57	36.17	25.53	14.89	14.89	2.13	6.38	10.64	10.64	0.00	57.45	0.00	19.15
Otzing	28	1.61	32.14	28.57	42.86	25.00	17.86	3.57	0.00	0.00	0.00	0.00	0.00	25.00
Pleidelsheim	194	5.06	63.92	32.47	47.42	38.14	32.47	36.60	33.51	18.04	2.06	2.06	3.09	12.89
Pliening	165	1.40	33.94	17.58	20.61	12.12	12.12	9.70	1.21	6.06	0.00	4.24	0.61	39.39
Polhill	107	1.52	23.36	12.15	54.21	14.02	14.02	1.87	2.80	3.74	0.93	0.00	0.00	35.51
Portway	54	2.57	50.00	27.78	62.96	20.37	12.96	9.26	3.70	0.00	1.85	0.00	9.26	22.22
Posterholt-Achterste Voorst	76	2.74	46.05	35.53	31.58	67.11	13.16	1.32	26.32	7.89	0.00	2.63	10.53	15.79
Yverdon-les-Bains	146	1.45	21.92	9.59	4.79	60.96	0.00	2.05	6.85	2.74	0.68	5.48	8.22	26.03
Prittlewell	29	1.66	10.34	10.34	13.79	17.24	58.62	3.45	10.34	0.00	0.00	0.00	0.00	24.14
Putten	73	1.22	21.92	19.18	43.84	6.85	4.11	0.00	10.96	4.11	1.37	0.00	0.00	36.99

Regensburg - Burgweinting	49	0.00	22.45	2.04	0.00	0.00	2.04	4.08	0.00	0.00	0.00	0.00	0.00	48.98
Reims	136	0.03	0.00	0.74	0.00	2.21	0.00	0.00	0.00	0.00	0.00	0.00	0.00	97.06
Remda	92	0.30	1.09	6.52	9.78	10.87	0.00	0.00	1.09	0.00	0.00	0.00	0.00	77.17
Rhenen	723	2.17	30.84	21.72	23.37	26.28	19.92	3.60	31.67	4.43	0.28	0.00	3.18	36.10
Riccall Landing	39	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	100.00
Richelieu	37	0.14	2.70	2.70	0.00	5.41	0.00	0.00	0.00	0.00	0.00	0.00	0.00	94.59
Risely	83	1.63	27.71	12.05	39.76	16.87	13.25	0.00	10.84	2.41	1.20	1.20	1.20	31.33
Rivenhall	60	0.02	0.00	0.00	1.67	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	98.33
Rodingen	628	1.83	23.41	22.61	19.59	10.67	21.82	3.03	41.40	0.96	0.00	0.48	1.43	27.23
Rohnstedt	181	0.65	2.21	21.55	4.42	20.99	0.00	0.00	1.10	2.76	0.00	7.73	0.55	62.43
Rosmeer	118	2.25	38.14	16.95	27.12	38.98	22.88	1.69	38.98	0.00	0.00	0.00	2.54	35.59
Royaumeix	118	2.55	56.78	9.32	35.59	41.53	24.58	13.56	38.98	7.63	0.00	0.00	5.08	11.02
Rubenach	316	1.48	22.15	10.76	21.20	15.51	8.54	8.86	19.30	3.80	0.32	0.32	1.90	50.63
Sacy-le-Petit	42	0.98	26.19	7.14	9.52	21.43	7.14	0.00	23.81	0.00	0.00	0.00	2.38	52.38
Saint Marcel	17	2.35	70.59	23.53	41.18	29.41	17.65	0.00	35.29	0.00	0.00	0.00	0.00	5.88
Saint Martin de Verson	186	0.59	31.18	6.99	2.69	5.38	2.15	0.00	0.00	1.61	0.00	0.00	0.00	65.05
Saint Martin, Giberville	36	0.33	8.33	0.00	5.56	8.33	0.00	0.00	8.33	0.00	0.00	0.00	0.00	77.78
Saint Prex	36	0.28	8.33	2.78	2.78	13.89	0.00	0.00	0.00	0.00	0.00	0.00	0.00	80.56
Saint Saturnin	93	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	78.49
Saint Sauveur	375	1.34	20.27	8.00	16.80	18.93	9.07	1.87	32.27	1.60	0.00	0.80	1.33	49.07
Saint Sulpice	216	0.65	26.85	6.02	7.87	9.72	0.46	0.46	0.93	4.17	0.00	0.00	2.78	61.11
Saint Vit	93	4.75	76.34	35.48	49.46	47.31	29.03	8.60	72.04	7.53	4.30	11.83	8.60	5.38
Sainte-Barbe	103	1.02	22.33	7.77	7.77	34.95	3.88	10.68	0.00	0.00	0.97	0.00	1.94	45.63
Sarching	21	1.33	23.81	14.29	14.29	19.05	19.05	14.29	9.52	4.76	0.00	0.00	0.00	47.62

Sarre	240	2.50	24.58	22.50	49.17	35.00	28.75	4.17	17.92	3.33	1.25	3.75	2.50	23.75
Savigny-sur-Ardres	71	2.07	52.11	8.45	30.99	39.44	9.86	8.45	4.23	2.82	0.00	1.41	7.04	33.80
Schelklingen	29	3.10	55.17	10.34	31.03	48.28	34.48	6.90	13.79	3.45	0.00	37.93	0.00	17.24
Schretzheim	623	3.30	67.74	38.20	39.97	14.61	31.62	10.91	28.73	8.99	2.73	8.35	3.53	8.99
Sendling	37	1.59	48.65	18.92	10.81	37.84	5.41	21.62	0.00	2.70	2.70	0.00	0.00	8.11
Sewerby	55	3.22	49.09	30.91	49.09	18.18	9.09	1.82	30.91	7.27	1.82	1.82	0.00	21.82
Sézegnin	710	0.22	6.48	2.96	2.25	5.92	0.14	0.56	1.69	0.00	0.14	0.00	0.70	83.66
Shrubland Hall Quarry	50	1.94	32.00	14.00	38.00	24.00	12.00	6.00	10.00	10.00	0.00	0.00	4.00	46.00
Shudy Camps	145	1.09	11.03	11.03	38.62	10.34	2.76	2.76	6.21	2.76	0.69	0.69	0.69	47.59
Sibertswold/ Barfreston	227	2.19	24.23	21.15	62.56	21.15	22.03	5.29	14.10	2.64	0.88	0.44	0.88	19.38
Sissach	37	1.70	27.03	21.62	32.43	5.41	10.81	5.41	5.41	8.11	5.41	0.00	0.00	56.76
Sittard-Kemperkoul	64	2.33	26.56	26.56	20.31	28.13	23.44	7.81	39.06	7.81	0.00	0.00	3.13	25.00
Snape	37	3.81	67.57	29.73	72.97	24.32	29.73	5.41	32.43	2.70	0.00	2.70	0.00	16.22
Snell's Corner	33	1.82	30.30	12.12	57.58	18.18	15.15	0.00	6.06	6.06	3.03	3.03	0.00	21.21
Sommerda	26	2.23	38.46	26.92	23.08	34.62	15.38	30.77	7.69	3.85	0.00	15.38	0.00	34.62
Spong Hill	57	3.93	57.89	35.09	43.86	29.82	21.05	1.75	63.16	5.26	0.00	0.00	0.00	15.79
St Gereon	37	0.86	5.41	5.41	5.41	24.32	2.70	0.00	18.92	0.00	0.00	8.11	5.41	56.76
St Mary's Stadium	26	2.81	42.31	19.23	61.54	34.62	46.15	0.00	7.69	3.85	3.85	0.00	3.85	11.54
St Paul-in-the-Bail	77	0.00	0.00	1.30	0.00	0.00	0.00	0.00	2.60	0.00	0.00	0.00	2.60	93.51
St Peter's Tip	415	2.54	31.33	17.11	58.55	25.78	19.76	4.58	18.80	3.13	1.20	3.37	1.93	31.08
St. Servatius (Carolingian)	61	0.46	0.00	1.64	0.00	13.11	3.28	0.00	24.59	3.28	0.00	0.00	0.00	68.85
St. Servatius (Merovingian)	195	1.96	26.15	18.46	16.92	27.18	17.44	6.15	37.44	1.54	1.03	0.51	2.56	35.90
Staubing	165	1.64	26.67	15.76	25.45	19.39	12.73	10.91	4.85	7.88	0.61	3.03	0.00	52.73
Staunch Meadows	192	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	100.00

Stein-Groote Bongerd	64	1.86	21.88	14.06	12.50	29.69	14.06	1.56	65.63	1.56	0.00	0.00	0.00	25.00
Steinhöring	250	2.39	56.80	28.80	26.80	35.60	25.20	18.00	8.40	4.80	0.00	3.20	1.20	14.80
Stetten	87	2.62	51.72	26.44	57.47	26.44	25.29	2.30	0.00	5.75	0.00	0.00	0.00	20.69
Straubing-Bajuwarenstrasse	342	5.08	78.07	46.49	60.53	47.37	30.70	43.57	19.88	19.01	1.46	3.22	5.26	5.26
Streethouse Loftus	109	0.72	10.09	14.68	21.10	1.83	0.92	2.75	0.92	2.75	0.92	0.00	0.92	65.14
Sundremda	285	0.96	7.37	20.00	40.70	15.09	1.05	0.00	0.00	0.70	0.00	0.00	0.00	47.02
Tittleshall	23	3.13	60.87	30.43	65.22	8.70	13.04	8.70	17.39	0.00	0.00	0.00	8.70	17.39
Tournai	57	3.96	49.12	26.32	43.86	45.61	24.56	10.53	59.65	8.77	0.00	0.00	12.28	17.54
Tranmer House	19	4.37	73.68	21.05	84.21	31.58	68.42	5.26	15.79	0.00	0.00	5.26	0.00	0.00
Ulwell	57	0.02	0.00	0.00	1.75	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	98.25
Uncleby	68	1.75	39.71	16.18	52.94	11.76	7.35	2.94	1.47	10.29	7.35	1.47	0.00	27.94
Vellechevreux	133	0.05	2.26	0.75	0.00	1.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	95.49
Verrerie	62	0.68	25.81	8.06	4.84	11.29	3.23	0.00	3.23	0.00	0.00	0.00	4.84	64.52
Vorges	51	1.24	58.82	3.92	3.92	1.96	19.61	0.00	11.76	0.00	3.92	0.00	11.76	29.41
Vuippens	196	0.38	10.71	2.04	4.08	7.14	2.55	0.51	1.02	1.53	0.51	5.61	1.02	75.00
Wageningen	163	0.87	13.50	8.59	11.04	17.18	6.75	1.23	10.43	1.23	0.61	0.61	0.61	64.42
Wasselonne	127	0.43	11.81	11.02	12.60	1.57	6.30	0.00	0.00	0.00	0.00	0.00	0.00	66.93
Weissenburg	84	3.51	51.19	29.76	30.95	45.24	20.24	61.90	46.43	2.38	1.19	33.33	0.00	5.95
Wells Cathedral	225	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	100.00
West Heslerton	156	3.33	55.77	39.74	48.08	19.87	13.46	2.56	17.95	4.49	1.28	0.00	0.64	19.87
Wijchen	309	1.81	39.16	21.68	21.04	26.21	20.71	1.29	14.56	5.50	0.00	0.32	2.27	31.07
Winall II	45	1.24	20.00	4.44	48.89	17.78	2.22	6.67	2.22	6.67	0.00	4.44	0.00	40.00
Worthy Park	82	2.13	26.83	14.63	48.78	14.63	20.73	9.76	10.98	0.00	1.22	0.00	4.88	29.27

1.5. Grave Disturbance

Cemetery	% of Graves Disturbed	Source	Disturbed Graves Excluded?
Addingham	No records	Original report	-
Ailcy Hill	2.2	Original report	No
Alach	10.5	Original report	Yes
Aldingen	No records	Original report	-
Altenerding	Unclear records	Original report	-
Alton	10.9	Original report	Yes
Ammern	No records	Original report	-
Apple Down	5.2	Original report	No
Arlon	31.6	Original report	No
Arrentières	66.6	Original report	No
Aschheim	No records	Original report	-
Aubing	5.6	Original report	Yes
Aux Sarrasins (Evans)	No records	Original report	-
Bad Mingolsheim	84.1	Original report	No
Banneville-la-Campagne	13.9	Noterman 2016	No
Barbing-Irlmauth	No records	Original report	-
Barenthal	25.8	Original report	Yes
Bargen	13	Original report	Yes
Basel-Kleinhuningen	53.4	Original report	Yes
Beacon Hill	27	Original report	No
Beakesbourne II	14.3	Klevnäs 2013	Yes
Beckery Chapel	No records	Original report	-
Beckford	12.3	Original report	No
Beckum	No records	Original report	-
Bel-Air	No records	Original report	-
Bergeijk-Fazantlaan	45.8	Original report	No
Bergh Apton	No records	Original report	-
Berghausen	0	Original report	-
Berinsfield	29.2	Original report	Yes
Bifrons, Patrixbourne	0	Original report	-
Blacknall Field	8.7	Original report	No
Bloodmoor Hill	32.1	Original report	No
Bloville	0	Original report	-
Bonnieres	No records	Original report	-
Borsbeek	No records	Original report	-
Boss Hall	4	Original report	Yes
Braives	21.4	Original report	Yes
Breach Down	7.6	Original report	Yes
Bréal-sous-Vitré	0	Original report	-
Bremen-Mahndorf I	No records	Original report	-
Bremen-Mahndorf II	No records	Original report	-
Buchères	No records	Original report	-
Buchten	3.6	Original report	No
Buggingen	16.7	Original report	No
Bulles	50.1	Noterman 2016	Yes
Burgh Castle	17.9	Original report	Yes

Burwell	No records	Original report	-
Butler's Field	9.5	Original report	Yes
Buttermarket	No records	Original report	-
Caister-on-Sea	16.3	Original report	No
Camerton	No records	Original report	-
Candes-Saint-Martin	No records	Original report	-
Castledyke South	54.5	Original report	Yes
Chamberlain's Barn	11.8	Original report	No
Chaniers	No records	Original report	-
Chanteloup-en-brie	No records	Original report	-
Chartham Down	1.6	Original report	No
Chémeré	10.5	Original report	No
Ciply	No records	Original report	-
Cleatham	11.3	Original report	Yes
Clos d'Aubonne	0	Original report	-
Coisy	33.3	Original report	Yes
Cook Street, Southampton	45.8	Original report	No
Crayke	No records	Original report	-
Crotenay	No records	Original report	-
Cuignières	No records	Original report	-
Cutry	14.8	Original report	Yes
Dachwig	No records	Original report	-
Deersheim	67.9	Original report	No
Dirmstein	No records	Original report	-
Donaueschingen	0	Original report	-
Dover Buckland	8.9	Klevnäs 2013	Yes
Eccles	0.5	Klevnäs 2013	No
Edix Hill	36.5	Original report	Yes
Eichstetten	39.2	Original report	Yes
Eick	2.2	Original report	Yes
Elgg	No records	Original report	-
Empingham	2	Original report	No
Engelsmanhoven	28.3	Original report	Yes
Ennery	27.4	Original report	Yes
Entrammes	0	Original report	-
Epolding-Muhlthal	0	Original report	-
Epolding-Muhlthal Kirche	0	Original report	-
Eschborn	3.5	Original report	Yes
Esslingen	No records	Original report	-
Eynsford	No records	Original report	-
Fellbach-Schmiden	11.9	Original report	Yes
Finglesham	10.6	Klevnäs 2013	Yes
Folx-les-Caves	10	Original report	No
Fridingen	67.5	Original report	Yes
Giengen an der Brenz	34.1	Original report	No
Gilton Ash	No records	Original report	-
Goudelancourt-les-Pierrepont	73.5	Noterman 2016	Yes
Grande Oye	8.2	Original report	Yes
Great Chesterford	25.9	Original report	Yes

Grossschwabhausen	41.7	Original report	Yes
Guttingen	No records	Original report	-
Haillot	No records	Original report	-
Hamoir	7.4	Original report	No
Harford Farm	4.3	Original report	Yes
Haudricourt	No records	Original report	-
Hégenheim	No records	Original report	-
Heidenheim an der Brenz	No records	Original report	-
Hérouvillette	No records	Original report	-
Hières-sur-Amby	No records	Original report	-
Hockenheim	No records	Original report	
Holborough	17.9	Klevnäs 2013	No
Hollogne-aux-Pierres	31.8	Original report	Yes
Hordain	No records	Original report	-
Jeoffrécourt	16.4	Noterman 2016	No
Kelheim-Gmund	No records	Original report	-
King Harry Lane	2.6	Original report	Yes
King's Hostel	10	Original report	Yes
Kingston Down	1.2	Original report	Yes
Kirchheim am Ries	21.6	Original report	No
Kleinlangheim	35	Original report	Yes
Klepsau	No records	Original report	-
Koenigsmacker	No records	Original report	-
Junkersdorf	85.8	Original report	Yes
Müngersdorf	37.6	Original report	Yes
Koln-St. Severin	50.2	Original report	Yes
Kosingen	75.9	Original report	Yes
Krefeld-Gellep	30.1	Original report	No
La Mouline	0	Original report	-
La Pierre Bat	16.7	Original report	Yes
L'Abbaye de Saint Evre	0	Original report	-
Lamersdorf	51.7	Original report	No
Largillay-Marsonnay	No records	Original report	-
Lauterhofen	No records	Original report	-
Le Champ des Vis (Evans)	No records	Original report	-
Le Martray, Giberville	No records	Original report	-
Le Trillet a Meyzieu	No records	Original report	-
Lent	23.1	Original report	No
Liebenau	0	Original report	-
Longueil-Annel	43.9	Original report	No
Louviers	No records	Original report	-
Lucy Ribemont	No records	Original report	-
Lyminge II	18.8	Klevnäs 2013	Yes
Marina Drive	14.3	Original report	Yes
Mars-la-Tour	3.1	Original report	No
Melbourn	3.6	Original report	Yes
Mels	No records	Original report	-
Merdingen	No records	Original report	-
Metzervisse	1.8	Noterman 2016	No
Mill Hill	7.5	Klevnäs 2013	Yes

Mindelheim	No records	Original report	-
Minster-in-Sheppey	No records	Original report	-
Mollans	No records	Original report	-
Monkton	8.6	Klevnäs 2013	No
Montataire	91.1	Original report	No
Moreuil	91.1	Original report	No
Morning Thorpe	8.4	Original report	Yes
Mucking	10.5	Original report	No
Mulhausen	No records	Original report	-
Munzingen	91.9	Original report	No
Nazeingbury	No records	Original report	-
Neresheim	64.3	Original report	Yes
Neuburg an der Donau	No records	Original report	-
Newcastle-upon-Tyne Castle	No records	Original report	-
Norton	32.5	Original report	Yes
Nouvion-en-Ponthieu	No records	Original report	-
Obbicht-Oude Molen	23.1	Original report	Yes
Oosterbeintum	No records	Original report	-
Otzing	0	Original report	-
Pleidelsheim	25.4	Original report	Yes
Pliening	23.4	Original report	Yes
Polhill	1.9	Klevnäs 2013	No
Portway	22.9	Original report	Yes
Posterholt-Achterste Voorst	52.6	Original report	Yes
Yverdon-les-Bains	51.3	Original report	Yes
Prittlewell	6.5	Original report	Yes
Putten	No records	Original report	-
Regensburg-Burgweinting	4.1	Original report	No
Remda	No records	Original report	-
Rhenen	No records	Original report	-
Riccall Landing	No records	Original report	-
Richelieu	No records	Original report	-
Risely	15.3	Klevnäs 2013	Yes
Rivenhall	No records	Original report	
Rodingen	11.1	Original report	Yes
Rohnstedt	58.7	Original report	Yes
Rosmeer	25.2	Original report	No
Royaumeix	0	Original report	-
Rubenach	61.5	Original report	Yes
Sacy-le-Petit	No records	Original report	-
Saint Marcel	35.3	Noterman 2016	No
Saint Martin de Verson	No records	Original report	-
Saint Martin, Giberville	No records	Original report	-
Saint Prex	No records	Original report	-
Saint Saturnin	No records	Original report	-
Saint Sauveur	19.5	Noterman 2016	No
Saint Sulpice	No records	Original report	-
Saint Vit	52.1	Noterman 2016	Yes
Sainte-Barbe	1	Original report	Yes
Sarching	No records	Original report	-

Sarre	14.3	Klevnäs 2013	Yes
Savigny-sur-Ardres	11.3	Original report	Yes
Schelklingen	No records	Original report	-
Schretzheim	No records	Original report	-
Sendling	No records	Original report	-
Sewerby	No records	Original report	-
Sézegnin	No records	Original report	-
Shrubland Hall Quarry	6	Original report	No
Shudy Camps	No records	Original report	-
Sibertswold/Barfreston	0.9	Original report	Yes
Sissach	No records	Original report	-
Sittard-Kemperkoul	26.4	Original report	Yes
Snape	9.8	Original report	Yes
Snell's Corner	0	Original report	-
Sommerda	No records	Original report	-
Spong Hill	1.8	Original report	No
St Gereon	No records	Original report	-
St Mary's Stadium	34.6	Original report	No
St Paul-in-the-Bail	No records	Original report	-
St Peter's Tip	13.8	Klevnäs 2013	Yes
St. Servatius (Carolingian)	0	Original report	-
St. Servatius (Merovingian)	0	Original report	-
Staubing	49.1	Original report	No
Staunch Meadows	No records	Original report	-
Stein-Groote Bongerd	13.3	Original report	Yes
Steinhöring	11.6	Original report	No
Stetten	58.4	Original report	Yes
Straubing-Bajuwarenstrasse	58.5	Original report	Yes
Streethouse Loftus	0	Original report	-
Sundremda	No records	Original report	-
Tittleshall	4.2	Original report	Yes
Tournai	38.7	Original report	Yes
Tranmer House	0	Original report	-
Ulwell		Original report	
Uncleby	No records	Original report	-
Vellechevreux	No records	Original report	-
Verrerie	No records	Original report	-
Vorges	No records	Original report	-
Vuippens	No records	Original report	-
Wageningen	No records	Original report	-
Wasselonne	No records	Original report	-
Weissenburg	No records	Original report	-
Wells Cathedral	No records	Original report	-
West Heslerton	15.7	Original report	Yes
Wijchen	4.9	Original report	No
Winall II	55.6	Aspöck 2011	No
Worthy Park	21.2	Original report	Yes

Appendix 2. Statistical Tests

2.1. Statistical Methodologies

Before carrying out any statistical test, the data were tested for normality using a Shapiro Wilk's test. In all instances, the data was found to be non-normally distributed, and therefore the tests used were non-parametric. These are generally less powerful than parametric tests, but given the nature of the data, and indeed the nature of most archaeological data, they provide more reliable results.

The following statistical tests were used throughout this study. All analysis was carried out using IBM SPSS Statistics 23:

- Spearman's rho – measures the strength and direction of the correlation between two continuous or ordinal variables. It produces an r_s-value for the strength of a relationship, and a p-value for statistical significance.
- Kendall's tau-b – measures the strength and direction of the correlation between two ordinal variables. It is used as an alternative to Spearman's rho when the variables are dichotomous. It produces the same r_s-value and P-value
- Two-way ANOVA – used to determine whether there is an interaction effect between two independent variables on a continuous dependent variable. This is followed by post-hoc tests to determine the strength of this interaction, and the way in which the dependent variable varies with each independent variable.

The use of null hypothesis testing in statistics has been critiqued as being too simplistic; too focused on whether or not a certain number crosses a line rather than the archaeological importance of those trends (Drennan 1996, 161-2). Therefore an alpha-level of 0.05 was used as a guideline, but the strength of the relationship, shown by the r_s-value, was considered equally important. R_s-values range from -1 to 1, where negative values indicate a negative correlation, positive values a positive correlation, and 0 indicates no correlation. Numbers from ±0-0.3 are usually considered weak correlations, ±0.3-0.5 are moderate, while anything greater than ±0.5 is strong. If the p-value was above 0.05, but the relationship seemed to be a strong one of great importance, then this was still discussed as statistically significant. Likewise, if a relationship appeared weak and unimportant, this was dismissed as insignificant. This was a subjective decision, made on a case-by-case basis, rather than adhering to a strict numerical limit.

When carrying out multiple statistical tests at once, it is common practice to apply a Bonferroni correction, in order to reduce the type I error rate, the chances of incorrectly

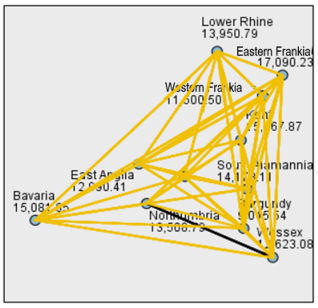
accepting a true null hypothesis. However, this increases the type II error rate, the chance of incorrectly accepting a false null hypothesis, to an unacceptably high level, as well as penalising a study for investigating multiple factors at once (Rothman 1990). Given the large number of statistical tests carried out within this study, and the adherence to alpha-levels that this correction requires, it was not applied.

2.2. Regional Studies

2.2.1. Kruskal Wallis H

Figure 1: Kruskal wallis-H test comparing the different regions.

Pairwise Comparisons of Region



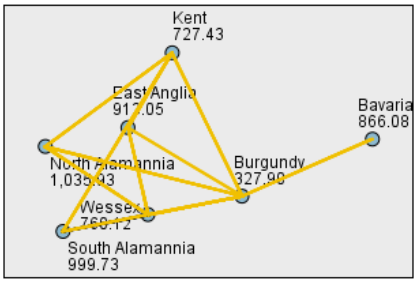
Each node shows the sample average rank of Region.

Sample1-Sample2	Test Statistic	Std. Error	Std. Test Statistic	Sig.	Adj.Sig.
Burgundy-Western Frankia	2,454.960	182.114	13.480	.000	.000
Burgundy-Wessex	3,577.532	195.605	18.290	.000	.000
Burgundy-East Anglia	3,944.868	211.557	18.647	.000	.000
Burgundy-Northumbria	4,463.249	269.021	16.591	.000	.000
Burgundy-Lower Rhine	4,905.250	174.519	28.107	.000	.000
Burgundy-South Alamannia	5,132.563	210.105	24.429	.000	.000
Burgundy-Bavaria	6,036.102	177.768	33.955	.000	.000
Burgundy-Kent	6,422.326	192.064	33.438	.000	.000
Burgundy-Eastern Frankia	8,044.686	335.426	23.984	.000	.000
Burgundy-North Alamannia	8,450.845	189.732	44.541	.000	.000
Western Frankia-Wessex	1,122.572	203.100	5.527	.000	.000
Western Frankia-East Anglia	1,489.909	218.506	6.819	.000	.000
Western Frankia-Northumbria	2,008.289	274.519	7.316	.000	.000
Western Frankia-Lower Rhine	2,450.290	182.881	13.398	.000	.000
Western Frankia-South Alamannia	2,677.603	217.101	12.333	.000	.000
Western Frankia-Bavaria	3,581.142	185.984	19.255	.000	.000
Western Frankia-Kent	3,967.366	199.693	19.867	.000	.000
Western Frankia-Eastern Frankia	-5,589.726	339.851	-16.448	.000	.000
Western Frankia-North Alamannia	5,995.885	197.451	30.367	.000	.000
Wessex-East Anglia	367.337	229.871	1.598	.110	1.000
Wessex-Northumbria	885.717	283.648	3.123	.002	.099
Wessex-Lower Rhine	-1,327.719	196.319	-6.763	.000	.000
Wessex-South Alamannia	-1,555.032	228.535	-6.804	.000	.000
Wessex-Bavaria	-2,458.571	199.213	-12.341	.000	.000
Wessex-Kent	2,844.794	212.068	13.415	.000	.000
Wessex-Eastern Frankia	-4,467.154	347.267	-12.864	.000	.000
Wessex-North Alamannia	-4,873.313	209.958	-23.211	.000	.000
East Anglia-Northumbria	518.380	294.876	1.758	.079	1.000
East Anglia-Lower Rhine	-960.382	212.218	-4.525	.000	.000
East Anglia-South Alamannia	-1,187.695	242.330	-4.901	.000	.000
East Anglia-Bavaria	-2,091.234	214.898	-9.731	.000	.000
East Anglia-Kent	-2,477.458	226.866	-10.920	.000	.000
East Anglia-Eastern Frankia	-4,099.817	356.497	-11.500	.000	.000
East Anglia-North Alamannia	-4,505.976	224.895	-20.036	.000	.000
Northumbria-Lower Rhine	-442.002	269.541	-1.640	.101	1.000
Northumbria-South Alamannia	-669.315	293.836	-2.278	.023	1.000
Northumbria-Bavaria	-1,572.854	271.656	-5.790	.000	.000
Northumbria-Kent	-1,959.077	281.219	-6.966	.000	.000
Northumbria-Eastern Frankia	-3,581.437	393.326	-9.106	.000	.000
Northumbria-North Alamannia	-3,987.596	279.631	-14.260	.000	.000
Lower Rhine-South Alamannia	227.313	210.770	1.078	.281	1.000
Lower Rhine-Bavaria	1,130.852	178.554	6.333	.000	.000
Lower Rhine-Kent	1,517.076	192.792	7.869	.000	.000
Lower Rhine-Eastern Frankia	-3,139.435	335.843	-9.348	.000	.000
Lower Rhine-North Alamannia	3,545.595	190.468	18.615	.000	.000
South Alamannia-Bavaria	-903.539	213.469	-4.233	.000	.001
South Alamannia-Kent	1,289.763	225.512	5.719	.000	.000
South Alamannia-Eastern Frankia	-2,912.123	355.637	-8.188	.000	.000
South Alamannia-North Alamannia	3,318.282	223.529	14.845	.000	.000
Bavaria-Kent	386.224	195.738	1.973	.048	1.000
Bavaria-Eastern Frankia	-2,008.584	337.543	-5.951	.000	.000
Bavaria-North Alamannia	2,414.743	193.450	12.483	.000	.000
Kent-Eastern Frankia	-1,622.360	345.286	-4.699	.000	.000
Kent-North Alamannia	-2,028.519	206.664	-9.816	.000	.000
Eastern Frankia-North Alamannia	406.159	343.994	1.181	.238	1.000

Each row tests the null hypothesis that the Sample 1 and Sample 2 distributions are the same.
Asymptotic significances (2-sided tests) are displayed. The significance level is .05.

Figure 2: The Kruskall Wallis H test for cemeteries which went out of use in the sixth century. There were no cemeteries which went out of use in this period in Northumbria, the Lower Rhine, Eastern Frankia, or West Frankia.

Pairwise Comparisons of Region



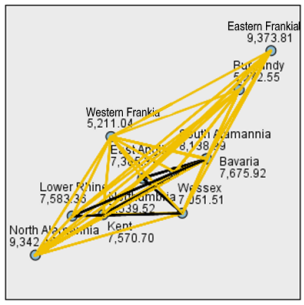
Each node shows the sample average rank of Region.

Sample1-Sample2	Test Statistic	Std. Error	Std. Test Statistic	Sig.	Adj.Sig.
Burgundy-Kent	399.531	38.776	10.304	.000	.000
Burgundy-Wessex	432.220	34.277	12.609	.000	.000
Burgundy-Bavaria	538.183	75.007	7.175	.000	.000
Burgundy-East Anglia	585.148	39.207	14.925	.000	.000
Burgundy-South Alamannia	671.831	90.497	7.424	.000	.000
Burgundy-North Alamannia	708.034	75.007	9.440	.000	.000
Kent-Wessex	-32.690	29.861	-1.095	.274	1.000
Kent-Bavaria	-138.653	73.095	-1.897	.058	1.000
Kent-East Anglia	185.617	35.411	5.242	.000	.000
Kent-South Alamannia	-272.301	88.918	-3.062	.002	.046
Kent-North Alamannia	-308.504	73.095	-4.221	.000	.001
Wessex-Bavaria	-105.963	70.811	-1.496	.135	1.000
Wessex-East Anglia	152.928	30.419	5.027	.000	.000
Wessex-South Alamannia	-239.611	87.050	-2.753	.006	.124
Wessex-North Alamannia	-275.814	70.811	-3.895	.000	.002
Bavaria-East Anglia	46.965	73.325	.641	.522	1.000
Bavaria-South Alamannia	133.648	109.677	1.219	.223	1.000
Bavaria-North Alamannia	169.851	97.290	1.746	.081	1.000
East Anglia-South Alamannia	-86.683	89.107	-.973	.331	1.000
East Anglia-North Alamannia	-122.886	73.325	-1.676	.094	1.000
South Alamannia-North Alamannia	36.203	109.677	.330	.741	1.000

Each row tests the null hypothesis that the Sample 1 and Sample 2 distributions are the same.
Asymptotic significances (2-sided tests) are displayed. The significance level is .05.

Figure 3: The Kruskall Wallis H test for cemeteries which went out of use in the seventh century.

Pairwise Comparisons of Region



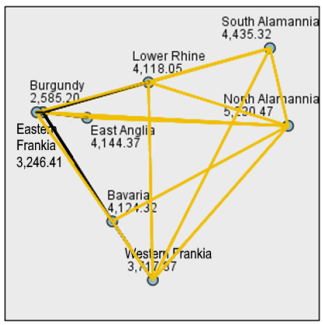
Each node shows the sample average rank of Region.

Sample1-Sample2	Test Statistic	Std. Error	Std. Test Statistic	Sig.	Adj.Sig.
Western Frankia-Burgundy	-61.514	168.622	-.365	.715	1.000
Western Frankia-Wessex	1,840.470	175.517	10.486	.000	.000
Western Frankia-East Anglia	2,174.268	180.753	12.029	.000	.000
Western Frankia-Northumbria	2,328.480	194.914	11.946	.000	.000
Western Frankia-Kent	2,359.658	153.448	15.378	.000	.000
Western Frankia-Lower Rhine	2,372.318	165.826	14.306	.000	.000
Western Frankia-Bavaria	2,464.885	147.520	16.709	.000	.000
Western Frankia-South Alamannia	2,927.947	218.604	13.394	.000	.000
Western Frankia-North Alamannia	4,131.406	167.387	24.682	.000	.000
Western Frankia-Eastern Frankia	-4,162.767	231.027	-18.019	.000	.000
Burgundy-Wessex	1,778.956	165.589	10.743	.000	.000
Burgundy-East Anglia	2,112.754	171.129	12.346	.000	.000
Burgundy-Northumbria	2,266.966	186.024	12.186	.000	.000
Burgundy-Kent	2,298.143	141.985	16.186	.000	.000
Burgundy-Lower Rhine	2,310.804	155.279	14.882	.000	.000
Burgundy-Bavaria	2,403.370	135.556	17.730	.000	.000
Burgundy-South Alamannia	2,866.433	210.716	13.603	.000	.000
Burgundy-North Alamannia	4,069.892	156.945	25.932	.000	.000
Burgundy-Eastern Frankia	4,101.253	223.577	18.344	.000	.000
Wessex-East Anglia	333.799	177.927	1.876	.061	1.000
Wessex-Northumbria	488.010	192.296	2.538	.011	.614
Wessex-Kent	519.188	150.108	3.459	.001	.030
Wessex-Lower Rhine	-531.848	162.740	-3.268	.001	.060
Wessex-Bavaria	-624.415	144.043	-4.335	.000	.001
Wessex-South Alamannia	-1,087.477	216.273	-5.028	.000	.000
Wessex-North Alamannia	-2,290.937	164.330	-13.941	.000	.000
Wessex-Eastern Frankia	-2,322.297	228.822	-10.149	.000	.000
East Anglia-Northumbria	154.211	197.087	.782	.434	1.000
East Anglia-Kent	-185.389	156.199	-1.187	.235	1.000
East Anglia-Lower Rhine	-198.049	168.374	-1.176	.239	1.000
East Anglia-Bavaria	-290.616	150.379	-1.933	.053	1.000
East Anglia-South Alamannia	-753.678	220.544	-3.417	.001	.035
East Anglia-North Alamannia	-1,957.138	169.912	-11.519	.000	.000
East Anglia-Eastern Frankia	-1,988.499	232.863	-8.539	.000	.000
Northumbria-Kent	-31.178	172.389	-.181	.856	1.000
Northumbria-Lower Rhine	-43.838	183.493	-.239	.811	1.000
Northumbria-Bavaria	-136.405	167.134	-.816	.414	1.000
Northumbria-South Alamannia	-599.467	232.292	-2.581	.010	.542
Northumbria-North Alamannia	-1,802.927	184.905	-9.751	.000	.000
Northumbria-Eastern Frankia	-1,834.288	244.018	-7.517	.000	.000
Kent-Lower Rhine	-12.660	138.652	-.091	.927	1.000
Kent-Bavaria	-105.227	116.139	-.906	.365	1.000
Kent-South Alamannia	-568.289	198.782	-2.859	.004	.234
Kent-North Alamannia	-1,771.749	140.515	-12.609	.000	.000
Kent-Eastern Frankia	-1,803.110	212.367	-8.491	.000	.000
Lower Rhine-Bavaria	92.567	132.061	.701	.483	1.000
Lower Rhine-South Alamannia	555.629	208.485	2.665	.008	.423
Lower Rhine-North Alamannia	1,759.089	153.936	11.427	.000	.000
Lower Rhine-Eastern Frankia	-1,790.449	221.476	-8.084	.000	.000
Bavaria-South Alamannia	463.062	194.242	2.384	.017	.942
Bavaria-North Alamannia	1,666.522	134.016	12.435	.000	.000
Bavaria-Eastern Frankia	-1,697.883	208.123	-8.158	.000	.000
South Alamannia-North Alamannia	1,203.460	209.729	5.738	.000	.000
South Alamannia-Eastern Frankia	-1,234.820	263.327	-4.689	.000	.000
North Alamannia-Eastern Frankia	-31.361	222.647	-.141	.888	1.000

Each row tests the null hypothesis that the Sample 1 and Sample 2 distributions are the same.
Asymptotic significances (2-sided tests) are displayed. The significance level is .05.

Figure 4: The Kruskall Wallis H test for cemeteries which went out of use in the eighth century. No cemeteries went out of use in this period in Northumbria, Kent and Wessex.

Pairwise Comparisons of Region



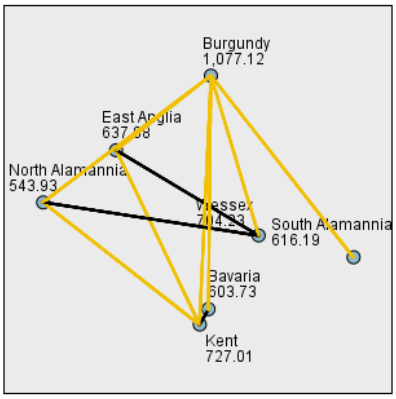
Each node shows the sample average rank of Region.

Sample1-Sample2	Test Statistic	Std. Error	Std. Test Statistic	Sig.	Adj.Sig.
Burgundy-Eastern Frankia	661.205	304.583	2.171	.030	.838
Burgundy-Western Frankia	1,132.673	78.085	14.506	.000	.000
Burgundy-Lower Rhine	1,532.852	77.191	19.858	.000	.000
Burgundy-Bavaria	1,539.119	168.570	9.130	.000	.000
Burgundy-East Anglia	1,559.166	258.154	6.040	.000	.000
Burgundy-South Alamannia	1,850.123	88.284	20.957	.000	.000
Burgundy-North Alamannia	2,645.266	88.609	29.853	.000	.000
Eastern Frankia-Western Frankia	471.468	302.438	1.559	.119	1.000
Eastern Frankia-Lower Rhine	871.647	302.209	2.884	.004	.110
Eastern Frankia-Bavaria	877.914	337.324	2.603	.009	.259
Eastern Frankia-East Anglia	897.961	389.891	2.303	.021	.596
Eastern Frankia-South Alamannia	1,188.918	305.230	3.895	.000	.003
Eastern Frankia-North Alamannia	1,984.061	305.325	6.498	.000	.000
Western Frankia -Lower Rhine	400.179	68.237	5.865	.000	.000
Western Frankia -Bavaria	406.446	164.662	2.468	.014	.380
Western Frankia-East Anglia	426.493	255.619	1.668	.095	1.000
Western Frankia -South Alamannia	717.450	80.572	8.904	.000	.000
Western Frankia -North Alamannia	1,512.593	80.929	18.690	.000	.000
Lower Rhine-Bavaria	6.267	164.240	.038	.970	1.000
Lower Rhine-East Anglia	26.314	255.348	.103	.918	1.000
Lower Rhine-South Alamannia	317.272	79.706	3.981	.000	.002
Lower Rhine-North Alamannia	1,112.415	80.067	13.894	.000	.000
Bavaria-East Anglia	20.047	296.074	.068	.946	1.000
Bavaria-South Alamannia	311.005	169.736	1.832	.067	1.000
Bavaria-North Alamannia	1,106.148	169.906	6.510	.000	.000
East Anglia-South Alamannia	-290.957	258.917	-1.124	.261	1.000
East Anglia-North Alamannia	-1,086.100	259.028	-4.193	.000	.001
South Alamannia-North Alamannia	795.143	90.809	8.756	.000	.000

Each row tests the null hypothesis that the Sample 1 and Sample 2 distributions are the same.
Asymptotic significances (2-sided tests) are displayed. The significance level is .05.

Figure 5: The results of the Kruskal Wallis H test for unfurnished burials in cemeteries which went out of use in the sixth century.

Pairwise Comparisons of Region



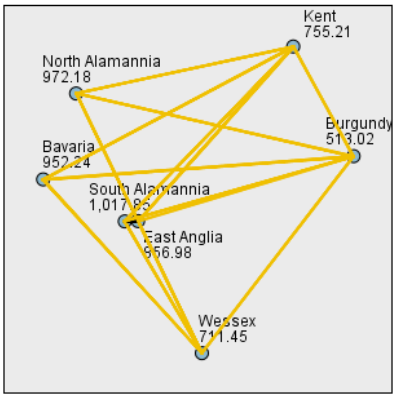
Each node shows the sample average rank of Region.

Sample1-Sample2	Test Statistic	Std. Error	Std. Test Statistic	Sig.	Adj.Sig.
North Alamannia-Bavaria	-59.797	77.844	-.768	.442	1.000
North Alamannia-South Alamannia	-72.255	87.755	-.823	.410	1.000
North Alamannia-East Anglia	93.946	58.669	1.601	.109	1.000
North Alamannia-Wessex	160.293	56.658	2.829	.005	.098
North Alamannia-Kent	183.073	58.485	3.130	.002	.037
North Alamannia-Burgundy	-533.193	60.015	-8.884	.000	.000
Bavaria-South Alamannia	12.458	87.755	.142	.887	1.000
Bavaria-East Anglia	34.149	58.669	.582	.561	1.000
Bavaria-Wessex	100.495	56.658	1.774	.076	1.000
Bavaria-Kent	123.275	58.485	2.108	.035	.736
Bavaria-Burgundy	-473.395	60.015	-7.888	.000	.000
South Alamannia-East Anglia	21.691	71.297	.304	.761	1.000
South Alamannia-Wessex	88.038	69.651	1.264	.206	1.000
South Alamannia-Kent	110.818	71.145	1.558	.119	1.000
South Alamannia-Burgundy	-460.938	72.409	-6.366	.000	.000
East Anglia-Wessex	-66.346	24.339	-2.726	.006	.135
East Anglia-Kent	-89.127	28.333	-3.146	.002	.035
East Anglia-Burgundy	-439.246	31.371	-14.002	.000	.000
Wessex-Kent	22.780	23.892	.953	.340	1.000
Wessex-Burgundy	-372.900	27.426	-13.596	.000	.000
Kent-Burgundy	-350.120	31.025	-11.285	.000	.000

Each row tests the null hypothesis that the Sample 1 and Sample 2 distributions are the same.
Asymptotic significances (2-sided tests) are displayed. The significance level is .05.

Figure 6: The results of the Kruskall Wallis H test for dress accessories in cemeteries which went out of use in the sixth century.

Pairwise Comparisons of Region



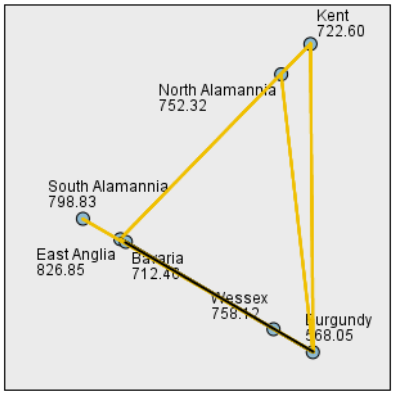
Each node shows the sample average rank of Region.

Sample1-Sample2	Test Statistic	Std. Error	Std. Test Statistic	Sig.	Adj.Sig.
Burgundy-Wessex	198.434	29.746	6.671	.000	.000
Burgundy-Kent	242.193	33.650	7.197	.000	.000
Burgundy-East Anglia	343.960	34.024	10.109	.000	.000
Burgundy-Bavaria	439.225	65.092	6.748	.000	.000
Burgundy-North Alamannia	459.158	65.092	7.054	.000	.000
Burgundy-South Alamannia	504.836	78.534	6.428	.000	.000
Wessex-Kent	43.759	25.913	1.689	.091	1.000
Wessex-East Anglia	145.526	26.398	5.513	.000	.000
Wessex-Bavaria	-240.791	61.450	-3.918	.000	.002
Wessex-North Alamannia	-260.724	61.450	-4.243	.000	.000
Wessex-South Alamannia	-306.402	75.543	-4.056	.000	.001
Kent-East Anglia	101.767	30.730	3.312	.001	.019
Kent-Bavaria	-197.032	63.432	-3.106	.002	.040
Kent-North Alamannia	-216.965	63.432	-3.420	.001	.013
Kent-South Alamannia	-262.643	77.164	-3.404	.001	.014
East Anglia-Bavaria	-95.265	63.632	-1.497	.134	1.000
East Anglia-North Alamannia	-115.198	63.632	-1.810	.070	1.000
East Anglia-South Alamannia	-160.876	77.328	-2.080	.037	.787
Bavaria-North Alamannia	19.932	84.429	.236	.813	1.000
Bavaria-South Alamannia	65.611	95.178	.689	.491	1.000
North Alamannia-South Alamannia	-45.678	95.178	-.480	.631	1.000

Each row tests the null hypothesis that the Sample 1 and Sample 2 distributions are the same.
Asymptotic significances (2-sided tests) are displayed. The significance level is .05.
Significance values have been adjusted by the Bonferroni correction for multiple tests.

Figure 7: The results of the Kruskall Wallis H test for the use of jewellery in cemeteries which went out of use in the sixth century.

Pairwise Comparisons of Region



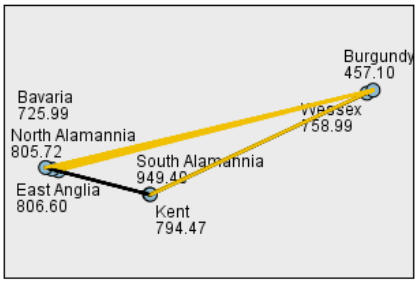
Each node shows the sample average rank of Region.

Sample1-Sample2	Test Statistic	Std. Error	Std. Test Statistic	Sig.	Adj.Sig.
Burgundy-Bavaria	144.408	57.326	2.519	.012	.247
Burgundy-Kent	154.548	29.635	5.215	.000	.000
Burgundy-North Alamannia	184.273	57.326	3.215	.001	.027
Burgundy-Wessex	190.074	26.197	7.256	.000	.000
Burgundy-South Alamannia	230.782	69.163	3.337	.001	.018
Burgundy-East Anglia	258.800	29.965	8.637	.000	.000
Bavaria-Kent	10.140	55.864	.182	.856	1.000
Bavaria-North Alamannia	39.865	74.356	.536	.592	1.000
Bavaria-Wessex	45.665	54.119	.844	.399	1.000
Bavaria-South Alamannia	86.374	83.822	1.030	.303	1.000
Bavaria-East Anglia	114.392	56.039	2.041	.041	.866
Kent-North Alamannia	-29.725	55.864	-.532	.595	1.000
Kent-Wessex	-35.525	22.822	-1.557	.120	1.000
Kent-South Alamannia	-76.234	67.957	-1.122	.262	1.000
Kent-East Anglia	104.252	27.063	3.852	.000	.002
North Alamannia-Wessex	5.800	54.119	.107	.915	1.000
North Alamannia-South Alamannia	-46.509	83.822	-.555	.579	1.000
North Alamannia-East Anglia	74.527	56.039	1.330	.184	1.000
Wessex-South Alamannia	-40.709	66.530	-.612	.541	1.000
Wessex-East Anglia	68.727	23.248	2.956	.003	.065
South Alamannia-East Anglia	28.018	68.101	.411	.681	1.000

Each row tests the null hypothesis that the Sample 1 and Sample 2 distributions are the same.
Asymptotic significances (2-sided tests) are displayed. The significance level is .05.
Significance values have been adjusted by the Bonferroni correction for multiple tests.

Figure 8: The results of the Kruskall Wallis H test for the use of personal accessories in cemeteries which went out of use in the sixth century.

Pairwise Comparisons of Region



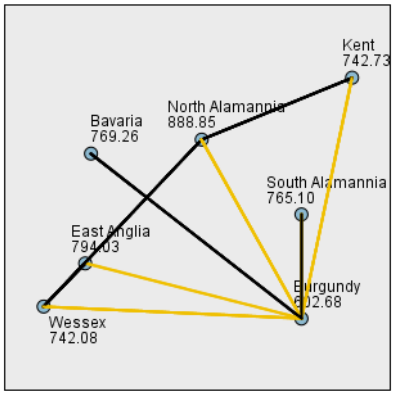
Each node shows the sample average rank of Region.

Sample1-Sample2	Test Statistic	Std. Error	Std. Test Statistic	Sig.	Adj.Sig.
Burgundy-Bavaria	268.884	65.303	4.117	.000	.001
Burgundy-Wessex	301.892	29.843	10.116	.000	.000
Burgundy-Kent	337.363	33.759	9.993	.000	.000
Burgundy-North Alamannia	348.614	65.303	5.338	.000	.000
Burgundy-East Anglia	349.494	34.135	10.239	.000	.000
Burgundy-South Alamannia	492.294	78.789	6.248	.000	.000
Bavaria-Wessex	33.007	61.650	.535	.592	1.000
Bavaria-Kent	68.479	63.638	1.076	.282	1.000
Bavaria-North Alamannia	79.730	84.703	.941	.347	1.000
Bavaria-East Anglia	80.609	63.838	1.263	.207	1.000
Bavaria-South Alamannia	223.409	95.487	2.340	.019	.405
Wessex-Kent	35.472	25.998	1.364	.172	1.000
Wessex-North Alamannia	-46.723	61.650	-.758	.449	1.000
Wessex-East Anglia	47.602	26.484	1.797	.072	1.000
Wessex-South Alamannia	-190.402	75.788	-2.512	.012	.252
Kent-North Alamannia	-11.251	63.638	-.177	.860	1.000
Kent-East Anglia	12.130	30.830	.393	.694	1.000
Kent-South Alamannia	-154.931	77.414	-2.001	.045	.953
North Alamannia-East Anglia	.879	63.838	.014	.989	1.000
North Alamannia-South Alamannia	-143.680	95.487	-1.505	.132	1.000
East Anglia-South Alamannia	-142.800	77.579	-1.841	.066	1.000

Each row tests the null hypothesis that the Sample 1 and Sample 2 distributions are the same.
Asymptotic significances (2-sided tests) are displayed. The significance level is .05.
Significance values have been adjusted by the Bonferroni correction for multiple tests.

Figure 9: The results of the Kruskall Wallis H test for the use of fittings in cemeteries which went out of use in the sixth century.

Pairwise Comparisons of Region



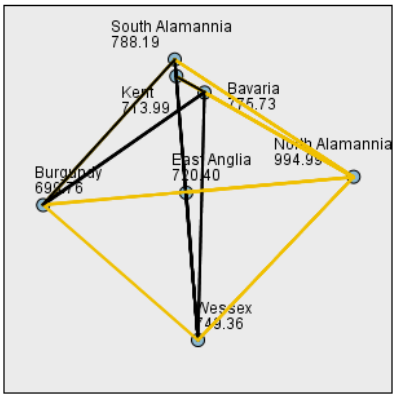
Each node shows the sample average rank of Region.

Sample1-Sample2	Test Statistic	Std. Error	Std. Test Statistic	Sig.	Adj.Sig.
Burgundy-Wessex	139.403	26.337	5.293	.000	.000
Burgundy-Kent	140.048	29.793	4.701	.000	.000
Burgundy-South Alamannia	162.426	69.532	2.336	.019	.409
Burgundy-Bavaria	166.578	57.631	2.890	.004	.081
Burgundy-East Anglia	191.347	30.125	6.352	.000	.000
Burgundy-North Alamannia	286.173	57.631	4.966	.000	.000
Wessex-Kent	.644	22.943	.028	.978	1.000
Wessex-South Alamannia	-23.022	66.885	-.344	.731	1.000
Wessex-Bavaria	-27.175	54.407	-.499	.617	1.000
Wessex-East Anglia	51.944	23.372	2.222	.026	.551
Wessex-North Alamannia	-146.769	54.407	-2.698	.007	.147
Kent-South Alamannia	-22.378	68.319	-.328	.743	1.000
Kent-Bavaria	-26.530	56.162	-.472	.637	1.000
Kent-East Anglia	51.299	27.208	1.885	.059	1.000
Kent-North Alamannia	-146.125	56.162	-2.602	.009	.195
South Alamannia-Bavaria	-4.153	84.269	-.049	.961	1.000
South Alamannia-East Anglia	28.922	68.465	.422	.673	1.000
South Alamannia-North Alamannia	123.747	84.269	1.468	.142	1.000
Bavaria-East Anglia	24.769	56.338	.440	.660	1.000
Bavaria-North Alamannia	119.595	74.752	1.600	.110	1.000
East Anglia-North Alamannia	-94.826	56.338	-1.683	.092	1.000

Each row tests the null hypothesis that the Sample 1 and Sample 2 distributions are the same.
Asymptotic significances (2-sided tests) are displayed. The significance level is .05.
Significance values have been adjusted by the Bonferroni correction for multiple tests.

Figure 10: The results of the Kruskall Wallis H test for the use of cosmetics in cemeteries which went out of use in the sixth century.

Pairwise Comparisons of Region



Each node shows the sample average rank of Region.

Sample1-Sample2	Test Statistic	Std. Error	Std. Test Statistic	Sig.	Adj.Sig.
Burgundy-Kent	14.225	15.843	.898	.369	1.000
Burgundy-East Anglia	20.640	16.019	1.288	.198	1.000
Burgundy-Wessex	49.593	14.005	3.541	.000	.008
Burgundy-Bavaria	75.967	30.646	2.479	.013	.277
Burgundy-South Alamannia	88.425	36.974	2.392	.017	.352
Burgundy-North Alamannia	295.224	30.646	9.633	.000	.000
Kent-East Anglia	6.415	14.468	.443	.657	1.000
Kent-Wessex	-35.368	12.200	-2.899	.004	.079
Kent-Bavaria	-61.742	29.864	-2.067	.039	.813
Kent-South Alamannia	-74.200	36.329	-2.042	.041	.863
Kent-North Alamannia	-280.999	29.864	-9.409	.000	.000
East Anglia-Wessex	-28.954	12.428	-2.330	.020	.416
East Anglia-Bavaria	-55.327	29.958	-1.847	.065	1.000
East Anglia-South Alamannia	-67.785	36.406	-1.862	.063	1.000
East Anglia-North Alamannia	-274.584	29.958	-9.166	.000	.000
Wessex-Bavaria	-26.374	28.931	-.912	.362	1.000
Wessex-South Alamannia	-38.831	35.566	-1.092	.275	1.000
Wessex-North Alamannia	-245.630	28.931	-8.490	.000	.000
Bavaria-South Alamannia	12.458	44.810	.278	.781	1.000
Bavaria-North Alamannia	219.257	39.750	5.516	.000	.000
South Alamannia-North Alamannia	206.799	44.810	4.615	.000	.000

Each row tests the null hypothesis that the Sample 1 and Sample 2 distributions are the same.
Asymptotic significances (2-sided tests) are displayed. The significance level is .05.
Significance values have been adjusted by the Bonferroni correction for multiple tests.

Figure 11: The results of the Kruskall Wallis H test for the use of amulets in ceemteries which went out of use in the sixth century.

Hypothesis Test Summary

	Null Hypothesis	Test	Sig.	Decision
10	The distribution of Amulets is the same across categories of Region.	Independent-Samples Kruskal-Wallis Test	.176	Retain the null hypothesis.

Asymptotic significances are displayed. The significance level is .05.

2.2.2. Spearman's Rank and Kendall's tau-b

The following tables represent the results of statistical tests testing the null hypothesis that there was no association between the date a cemetery went out of use, and the number of objects placed in graves, and the proportion of graves within it containing different types of objects. The former was tested using a Spearman's rank correlation, the latter using Kendall's tau-b. The tests were carried out for all of the cemeteries from a region, and only those in use during the period of furnished burial, apart from the regions where there were no later cemeteries available.

Table 1: Northern Alamannia

	Entire Period (N=2693)		**Period of Furnished Burial** (N=2622)	
Type	**R_s Value**	**P-Value**	**R_s Value**	**P-Value**
Total Number	-0.233	<0.0005	-0.181	<0.0005
Unfurnished	0.184	<0.0005	0.118	<0.0005
Dress accessories	-0.121	<0.0005	-0.084	<0.0005
Jewellery	-0.114	<0.0005	-0.094	<0.0005
Personal accessories	-0.029	0.0930	0.006	0.7470
Fittings	-0.043	0.0110	0.075	<0.0005
Weapons	-0.115	<0.0005	-0.096	<0.0005
Cosmetics	-0.134	<0.0005	-0.119	0.0010
Vessels	-0.164	<0.0005	-0.149	<0.0005
Tools	-0.049	0.0040	-0.038	0.0280
Amulets	-0.063	<0.0005	-0.066	<0.0005
Animal Remains	-0.004	0.8270	0.010	0.5680
Coins	-0.054	0.0020	-0.050	0.0040

Table 2: Southern Alamannia

	Entire Period (N=1938)		**Period of Furnished Burial** (N=1727)	
Type	**R_s Value**	**P-Value**	**R_s Value**	**P-Value**
Total Number	-0.302	<0.0005	-0.201	<0.0005
Unfurnished	0.197	<0.0005	0.093	<0.0005
Dress accessories	-0.221	<0.0005	-0.157	<0.0005
Jewellery	-0.074	<0.0005	-0.005	0.8370
Personal accessories	-0.198	<0.0005	-0.114	<0.0005
Fittings	-0.170	<0.0005	-0.151	<0.0005
Weapons	-0.162	<0.0005	-0.114	<0.0005

Cosmetics	-0.131	<0.0005	-0.142	<0.0005
Vessels	-0.020	0.3320	-0.040	0.0690
Tools	-0.087	<0.0005	-0.062	0.0050
Amulets	0.005	0.7900	-0.008	0.7290
Animal Remains	-0.089	<0.0005	-0.066	0.0030
Coins	-0.055	0.0070	-0.062	0.0050

Table 3: Bavaria

	Period of Unfurnished Burial (N=2712)	
Type	**R_s-Value**	**P-Value**
Total Number	-0.051	0.0080
Number of Unfurnished	0.126	<0.0005
Dress Accessories	-0.077	<0.0005
Jewellery	-0.043	0.0200
Personal Accessories	0.006	0.7450
Fittings	0.007	0.7060
Weapons	-0.047	0.0090
Cosmetics	-0.005	0.8010
Vessels	0.002	0.9290
Tools	0.005	0.7710
Amulets	0.044	0.0190
Animal Remains	-0.009	0.6160
Coins	-0.002	0.9300

Table 4: Burgundy

	Entire Period (N=2191)		**Period of Furnished Burial** (N=1950)	
Grave Good Type	**R_s-value**	**P-value**	**R_s-value**	**P-value**
Total Number	-0.246	<0.0005	-0.172	<0.0005
Unfurnished	0.222	<0.0005	0.160	<0.0005
Dress Accessories	-0.122	<0.0005	-0.083	<0.0005
Jewellery	-0.083	<0.0005	-0.063	0.0050
Personal Accessories	-0.081	<0.0005	-0.055	0.0150
Fittings	-0.163	<0.0005	-0.123	<0.0005
Weapons	-0.076	<0.0005	-0.065	0.0040
Cosmetics	-0.016	0.3980	0.001	0.9560
Vessels	-0.054	0.0050	-0.047	0.0370
Tools	-0.034	0.0770	-0.018	0.4270
Amulets	-0.014	0.4570	-0.008	0.7320
Animal Remains	-0.058	0.0030	-0.056	0.0120
Coins	-0.046	0.0170	-0.038	0.0940

Table 5: West Frankia

	Entire Period (N=3112)		**Period of Furnished Burial** (N=3068)	
Grave Good Types	**R_s-value**	**P-value**	**R_s-value**	**P-value**
Total Number	-0.022	0.2280	0.001	0.9660
Unfurnished	0.057	<0.0005	0.038	0.0170
Dress Accessories	0.002	0.9040	0.014	0.3900
Jewellery	0.017	0.2920	0.024	0.1360
Personal Accessories	0.050	0.0010	0.061	<0.0005
Fittings	-0.007	0.6720	0.004	0.8250
Weapons	-0.010	0.5080	-0.004	0.8060
Cosmetics	-0.018	0.2660	-0.015	0.3480
Vessels	0.041	0.0100	0.055	0.0010
Tools	-0.006	0.6910	-0.004	0.8180
Amulets	-0.019	0.2190	-0.019	0.2310
Animal Remains	0.021	0.1910	0.023	0.1470
Coins	0.003	0.8510	0.006	0.7000

Table 6: Lower Rhine

	Entire Period (N=3664)		**Period of Furnished Burial** (N=3603)	
Grave Good Type	**R_s-Value**	**P-Value**	**R_s-Value**	**P-value**
Total number	-0.129	<0.0005	-0.111	<0.0005
Unfurnished	0.094	<0.0005	0.081	<0.0005
Dress Accessories	-0.101	<0.0005	-0.087	<0.0005
Jewellery	-0.017	0.2540	-0.006	0.7000
Personal Accessories	-0.066	<0.0005	-0.053	<0.0005
Fittings	-0.062	<0.0005	-0.057	<0.0005
Weapons	-0.097	<0.0005	-0.090	<0.0005
Cosmetics	-0.027	0.0610	-0.022	0.1270
Vessels	-0.057	<0.0005	-0.055	<0.0005
Tools	-0.039	0.0070	-0.039	0.0070
Amulets	0.014	0.3170	0.016	0.2720
Animal Remains	-0.021	0.1390	-0.020	0.1760
Coins	0.035	0.0150	0.041	0.0050

Table 7: Eastern Frankia

	Period of Furnished Burial (N=578)	
Type of Object	**R_s-value**	**P-value**
Total number	-0.159	<0.0005
Number of Unfurnished	0.194	<0.0005
Dress Accessories	-0.088	0.0190
Jewellery	-0.017	0.6420
Personal Accessories	-0.051	0.1760
Fittings	-0.004	0.9130

Weapons	-0.074	0.0490
Cosmetics	-0.021	0.5820
Vessels	-0.161	<0.0005
Tools	-0.061	0.1050
Amulets	0.027	0.4680
Animal Remains	-0.162	<0.0005
Coins	-0.034	0.3610

Table 8: Kent

	Period of Furnished Burial (N=2718)	
Type of Object	**R_s Value**	**P-Value**
Total number	-0.026	0.171
Number of Unfurnished	0.009	0.613
Dress accessories	-0.068	0.000
Jewellery	-0.042	0.026
Personal accessories	0.019	0.229
Fittings	-0.036	0.052
Weapons	-0.01	0.575
Cosmetics	-0.014	0.464
Vessels	0.038	0.044
Tools	-0.015	0.417
Amulets	-0.039	0.039
Animal Remains	-0.006	0.737
Coins	-0.011	0.569

Table 9: Anglian Regions of England

	Entire period (N=1899)		**Period of Furnished Burial** (N=1394)	
Type	**R_s Value**	**P-Value**	**R_s Value**	**P-Value**
Total Number	-0.608	<0.0005	-0.330	<0.0005
Unfurnished	0.519	<0.0005	0.227	<0.0005
Dress accessories	-0.410	<0.0005	-0.267	<0.0005
Jewellery	-0.281	<0.0005	-0.176	<0.0005
Personal accessories	-0.347	<0.0005	-0.090	<0.0005
Fittings	-0.267	<0.0005	-0.119	<0.0005
Weapons	-0.249	<0.0005	-0.188	<0.0005
Cosmetics	-0.061	0.0020	0.035	0.1390
Vessels	-0.263	<0.0005	-0.199	<0.0005
Tools	-0.038	0.0550	0.044	0.0630
Amulets	-0.022	0.2680	0.017	0.4830
Animal Remains	-0.056	0.0050	-0.033	0.1650
Coins	-0.004	0.8480	0.046	0.0530

Table 10: Saxon Regions of England

	Entire Period (N=2430)		**Period of Furnished Burial** (N=1799)	
Type	**R_s Value**	**P-Value**	**R_s Value**	**P-Value**
Total Number	-0.507	<0.0005	-0.140	<0.0005
Unfurnished	0.450	<0.0005	0.077	<0.0005
Dress accessories	-0.300	<0.0005	-0.129	<0.0005
Jewellery	-0.228	<0.0005	-0.087	<0.0005
Personal accessories	-0.279	<0.0005	-0.006	0.7580
Fittings	-0.215	<0.0005	-0.094	<0.0005
Weapons	-0.190	<0.0005	-0.063	0.0030
Cosmetics	-0.123	<0.0005	-0.067	0.0020
Vessels	-0.139	<0.0005	-0.049	0.0190
Tools	-0.026	0.1320	0.064	0.0020
Amulets	-0.011	0.5280	0.049	0.0190
Animal Remains	-0.022	0.2200	0.089	<0.0005
Coins	-0.082	<0.0005	-0.038	0.0680

Table 11: Northumbria

	Entire Period (N=983)		**Period of Furnished Burial** (N=794)	
Type	**R_s Value**	**P-Value**	**R_s Value**	**P-Value**
Total Number	-0.317	<0.0005	0.110	0.0020
Number of Unfurnished	0.329	<0.0005	-0.123	<0.0005
Dress accessories	-0.181	<0.0005	0.115	0.0010
Jewellery	-0.217	<0.0005	-0.039	0.2530
Personal accessories	-0.200	<0.0005	0.076	0.0280
Fittings	-0.139	<0.0005	-0.021	0.5490
Weapons	-0.048	0.1060	0.072	0.0360
Cosmetics	-0.060	0.0410	0.011	0.7470
Vessels	-0.055	0.0640	0.110	0.0010
Tools	-0.031	0.2900	0.063	0.0660
Amulets	-0.039	0.1850	0.011	0.7580
Animal Remains	0.005	0.8700	0.121	<0.0005
Coins	-0.036	0.2190	-0.019	0.5790

2.3. Individual Cemeteries

2.3.1. Spearman's Rank Correlation

The following table give the results of the spearman's rank correlations carried out to test the null hypothesis that there was no correlation between the date of a grave (taken to be the mid-point of the phase they were assigned to) and the number of objects of different types in that grave.

Table 5: Pleidelsheim

Type of Grave Good		R_s-value	P-value	Date test carried out for	N
Total Number	Overall	-0.286	0.0380	590 onwards	53
	Feminine	-0.485	0.0010	542 onwards	43
	Masculine	0.010	0.9520	520 onwards	37
Dress Accessories	Overall	-0.404	<0.0005	530 onwards	82
	Feminine	-0.576	<0.0005	510 onwards	48
	Masculine	-0.215	0.2910	567 onwards	26
Jewellery	Overall	0.155	0.0880	Entire period	122
	Feminine	0.235	0.0640	Entire period	63
	Masculine	-0.321	0.0290	460 onwards	46
Personal Accessories	Overall	-0.214	0.0530	530 onwards	82
	Feminine	-0.291	0.0580	542 onwards	43
	Masculine	-0.241	0.1510	520 onwards	37
Fittings	Overall	-0.368	0.0070	580 onwards	53
	Feminine	-0.456	0.0010	510 onwards	48
	Masculine	-0.046	0.8500	590 onwards	19
Weapons	Overall	0.032	0.7240	Entire period	122
	Feminine	-0.253	0.0480	460 onwards	62
	Masculine	-0.082	0.6280	520 onwards	37
Cosmetics	Overall	0.245	0.0070	Entire period	122
	Feminine	-0.157	0.4080	590 onwards	30
	Masculine	-0.009	0.9590	520 onwards	37
Vessels	Overall	-0.251	0.0050	Entire period	122
	Feminine	-0.372	0.0430	580 onwards	30
	Masculine	0.288	0.2310	570 onwards	19
Tools	Overall	-0.263	0.0170	530 onwards	82
	Feminine	-0.406	0.0070	530 onwards	43
	Masculine	-0.351	0.1410	590 onwards	19
Amulets	Overall	-0.140	0.1230	Entire period	122
	Feminine	-0.280	0.0540	520 onwards	48
	Masculine	-	-	-	0
Animal Remains	Overall	-0.030	0.7450	Entire period	122
	Feminine	-0.232	0.1340	542 onwards	43
	Masculine	-0.213	0.2330	542 onwards	33
Coins	Overall	0.007	0.9410	Entire period	122
	Feminine	-0.217	0.2110	567 onwards	35
	Masculine	-0.262	0.1170	520 onwards	37

Table 12: Altenerding. All tests carried out for the entire cemetery use

Type of Grave Good		R_s-value	P-value	N
Total Number	Overall	-0.299	<0.0005	319
	Feminine	-0.162	0.0860	113
	Masculine	-0.147	0.0350	206

Dress Accessory	Overall	-0.369	<0.0005	319
	Feminine	-0.351	<0.0005	113
	Masculine	-0.085	0.2260	206
Jewellery	Overall	-0.312	<0.0005	319
	Feminine	0.206	0.0290	113
	Masculine	0.159	0.0230	206
Personal Accessories	Overall	-0.267	<0.0005	319
	Feminine	-0.123	0.1960	113
	Masculine	-0.459	<0.0005	206
Fittings	Overall	0.104	0.0640	319
	Feminine	0.010	0.9150	113
	Masculine	0.134	0.0550	206
Weapons	Overall	0.402	<0.0005	319
	Feminine	0.140	0.1400	113
	Masculine	0.220	0.0020	206
Cosmetics	Overall	-0.062	0.2660	319
	Feminine	0.044	0.6410	113
	Masculine	-0.116	0.0960	206
Vessels	Overall	-0.091	0.1040	319
	Feminine	-0.033	0.7260	113
	Masculine	-0.053	0.4510	206
Tools	Overall	-0.266	<0.0005	319
	Feminine	-0.099	0.2960	113
	Masculine	-0.215	0.0020	206
Animal Remains	Overall	0.049	0.3810	319
	Feminine	-0.126	0.1820	113
	Masculine	0.202	0.0040	206
Coins	Overall	-0.071	0.2050	319
	Feminine	0.098	0.3040	113
	Masculine	-0.113	0.1070	206

Table 13: Grande Oye. All tests were carried out on the entire cemetery sequence.

Type of Object		**R_s-value**	**P-value**	**N**
Total Number	Overall	0.031	0.724	132
	Feminine	-0.092	0.488	54
	Masculine	0.035	0.774	64
Dress Accessories	Overall	-0.182	0.037	132
	Feminine	-0.229	0.096	54
	Masculine	-0.019	0.880	64
Jewellery	Overall	0.083	0.346	132
	Feminine	-0.090	0.517	54
	Masculine	-0.120	0.345	64
Personal Accessories	Overall	0.052	0.553	132
	Feminine	0.125	0.369	54
	Masculine	0.118	0.352	64
Fittings	Overall	0.014	0.875	132
	Feminine	0.118	0.395	54
	Masculine	-0.057	0.655	64

Weapons	Overall	-0.032	0.714	132
	Feminine	-0.301	0.027	54
	Masculine	0.212	0.093	64
Cosmetics	Overall	-0.050	0.571	132
	Feminine	-0.183	0.186	54
	Masculine	0.007	0.954	64
Tools	Overall	0.086	0.328	132
	Feminine	-0.046	0.743	54
	Masculine	0.165	0.193	64
Amulets	Overall	0.093	0.288	132
	Feminine	0.098	0.482	54
	Masculine	-	-	0
Animal Remains	Overall	-0.111	0.204	132
	Feminine	-	-	0
	Masculine	-0.149	0.240	64
Coins	Overall	0.147	0.093	132
	Feminine	0.140	0.312	54
	Masculine	0.165	0.193	64

Table 14: Bulles

Type of Object		R_s-value	P-value	Date test carried out for	N
Total Number	Overall	-0.381	<0.0005	545 onwards	220
	Feminine	-0.229	0.0360	Entire period	84
	Masculine	0.034	0.8180	565 onwards	49
Dress Accessories	Overall	-0.342	0.0010	620 onwards	87
	Feminine	-0.214	0.0510	Entire period	84
	Masculine	0.123	0.5020	565 onwards	32
Jewellery	Overall	-0.219	0.0010	520 onwards	231
	Feminine	-0.389	<0.0005	Entire period	84
	Masculine	0.007	0.9680	565 onwards	32
Personal Accessories	Overall	-0.351	<0.0005	520 onwards	231
	Feminine	-0.209	0.088	520 onwards	68
	Masculine	-0.215	0.0660	Entire period	74
Fittings	Overall	-0.296	<0.0005	520 onwards	231
	Feminine	-0.040	0.7190	Entire period	84
	Masculine	0.253	0.0300	Entire period	74
Weapons	Overall	-0.184	0.0020	Entire period	290
	Feminine	0.017	0.8790	Entire period	84
	Masculine	-0.222	0.1000	520 onwards	56
Cosmetics	Overall	-0.186	0.0050	520 onwards	231
	Feminine	-0.053	0.6350	Entire period	84
	Masculine	-0.246	0.0850	545 onwards	50
Vessels	Overall	-0.463	<0.0005	600 onwards	98
	Feminine	0.138	0.2120	Entire period	84

	Masculine	0.176	0.1350	Entire period	74
Tools	Overall	-0.013	0.8280	Entire period	290
	Feminine	0.134	0.2250	Entire period	84
	Masculine	0.165	0.3670	565 onwards	32
Amulets	Overall	-0.096	0.1040	Entire period	290
	Feminine	-0.178	0.1050	Entire period	84
	Masculine	-	-	Entire period	0
Animal Remains	Overall	-0.008	0.8900	Entire period	290
	Feminine	0.037	0.7380	Entire period	84
	Masculine	-	-	Entire period	0
Coins	Overall	-0.224	<0.0005	Entire period	290
	Feminine	-0.263	0.0160	Entire period	84
	Masculine	-0.231	0.0480	Entire period	74
Unfurnished Burial	Overall	0.685	<0.0005	635 onwards	49

Table 15: Rödingen

Type of Grave Good		**R_s-value**	**P-value**	**Date test carried out for**	**N**
Total Number	Overall	-0.245	0.0010	580 onwards	166
	Feminine	-0.506	<0.0005	590 onwards	57
	Masculine	-0.104	0.2550	Entire period	121
Dress Accessories	Overall	0.299	0.0320	607 onwards	88
	Feminine	-0.251	0.0060	Entire period	120
	Masculine	0.314	<0.0005	Entire period	121
Jewellery	Overall	0.251	0.1280	620 onwards	38
	Feminine	-0.216	0.0180	Entire period	120
	Masculine	-0.010	0.9110	Entire period	121
Personal Accessories	Overall	-0.191	0.0160	592 onwards	160
	Feminine	-0.376	0.0290	605 onwards	34
	Masculine	-0.239	0.0130	540 onwards	108
Fittings	Overall	0.064	0.2150	Entire period	375
	Feminine	-0.059	0.5200	Entire period	120
	Masculine	0.315	0.0010	520 onwards	115
Weapons	Overall	0.101	0.5000	Entire period	375
	Feminine	0.017	0.8520	Entire period	120
	Masculine	-0.126	0.1700	Entire period	121
Cosmetics	Overall	-0.105	0.0430	Entire period	375
	Feminine	-0.088	0.3420	Entire period	120
	Masculine	-0.105	0.2500	Entire period	121
Vessels	Overall	-0.316	<0.0005	592-657	160
	Feminine	-0.369	0.0090	595 onwards	43
	Masculine	-0.366	0.0010	560 onwards	82
Tools	Overall	-0.154	0.0020	505-657	375
	Feminine	-0.264	0.0040	Entire period	120
	Masculine	-	-	Entire period	0

Animal Remains	Overall	-0.026	0.6170	Entire period	375
	Feminine	-0.102	0.2680	Entire period	120
	Masculine	0.062	0.5010	Entire period	121
Coins	Overall	0.045	0.3800	Entire period	375
	Feminine	0.056	0.5400	Entire period	120
	Masculine	-0.015	0.8710	Entire period	121

Table 16: Cutry. All test carried out from 500 onwards

Type of Grave Good		R_s-value	P-value	N
Total Number	Overall	-0.319	<0.0005	179
	Masculine	-0.135	0.2160	86
	Feminine	-0.293	0.0260	58
Dress Accessories	Overall	-0.198	0.0020	179
	Masculine	0.033	0.7630	86
	Feminine	-0.387	0.0040	54
Jewellery	Overall	-0.242	<0.0005	179
	Masculine	-0.121	0.2660	86
	Feminine	-0.200	0.1480	54
Personal Accessories	Overall	-0.172	0.0050	v
	Masculine	-0.264	0.0140	86
	Feminine	-0.218	0.1140	54
Fittings	Overall	-0.034	0.6110	179
	Masculine	-0.034	0.7550	86
	Feminine	-0.032	0.8170	54
Weapons	Overall	0.028	0.6530	179
	Masculine	-0.018	0.8710	86
	Feminine	0.000	1.0000	54
Cosmetics	Overall	-0.141	0.0290	179
	Masculine	-0.074	0.4970	86
	Feminine	-0.056	0.6880	54
Vessels	Overall	-0.122	0.0600	179
	Masculine	0.027	0.8060	86
	Feminine	-0.077	0.5800	54
Tools	Overall	-0.079	0.2300	179
	Masculine	-0.089	0.4140	86
	Feminine	-0.264	0.0990	54
Amulets	Overall	-0.052	0.4320	179
	Masculine	-0.159	0.1450	86
	Feminine	-0.030	0.8300	54
Animal Remains	Overall	-0.090	0.1720	179
	Masculine	-	-	0
	Feminine	-0.186	0.1780	54
Coins	Overall	-0.162	0.0140	179
	Masculine	-0.139	0.2020	86

	Feminine	-0.197	0.1540	54
None	Overall	0.268	<0.0005	179
	Masculine	0.141	0.1960	86
	Feminine	-	-	0

Table 17: Dover Buckland. All tests were carried out on the entire cemetery sequence

Type of Grave Good		R_s-value	P-value	N
Total Number	Overall	0.073	0.3810	145
	Feminine	0.249	0.0050	112
	Masculine	-0.154	0.2520	54
Dress Accessories	Overall	-0.425	<0.0005	145
	Feminine	-0.509	<0.0005	112
	Masculine	0.078	0.5740	54
Jewellery	Overall	-0.081	0.3350	145
	Feminine	0.166	0.0800	112
	Masculine	-0.153	0.2700	54
Personal Accessories	Overall	0.314	<0.0005	145
	Feminine	0.465	<0.0005	112
	Masculine	0.014	0.9170	54
Fittings	Overall	-0.046	0.5820	145
	Feminine	0.008	0.9320	112
	Masculine	-0.046	0.7420	54
Weapons	Overall	0.067	0.4240	145
	Feminine	0.020	0.8380	112
	Masculine	-0.112	0.4190	54
Cosmetics	Overall	0.041	0.6240	145
	Feminine	0.019	0.8390	112
	Masculine	-0.049	0.7230	54
Vessels	Overall	0.104	0.2140	145
	Feminine	0.111	0.2420	112
	Masculine	0.005	0.9700	54
Tools	Overall	0.035	0.6760	145
	Feminine	0.077	0.4220	112
	Masculine	-0.103	0.4580	54
Amulets	Overall	0.042	0.6140	145
	Feminine	0.043	0.6490	112
	Masculine	-	-	0
Animal Remains	Overall	0.178	0.0320	145
	Feminine	0.154	0.1060	112
	Masculine	0.284	0.0370	54
Coins	Overall	-0.008	0.9240	145
	Feminine	0.064	0.5040	112
	Masculine	-0.182	0.1870	54

Table 18: Edix Hill. All tests were carried out on the entire cemetery sequence

Type of Grave Good		R_s-value	P-value	N
Total Number	Overall	-0.051	0.684	67
	Feminine	0.070	0.671	28
	Masculine	-0.285	0.158	26
Dress Accessories	Overall	-0.085	0.559	67
	Feminine	-0.189	0.336	28
	Masculine	0.060	0.784	26
Jewellery	Overall	0.050	0.728	67
	Feminine	0.158	0.423	28
	Masculine	-0.033	0.882	26
Personal Accessories	Overall	0.022	0.878	67
	Feminine	0.230	0.238	28
	Masculine	-0.213	0.329	26
Fittings	Overall	0.097	0.501	67
	Feminine	-0.033	0.869	28
	Masculine	0.181	0.410	26
Weapons	Overall	-0.236	0.099	67
	Feminine	-0.013	0.949	28
	Masculine	-0.456	0.029	26
Cosmetics	Overall	0.235	0.101	67
	Feminine	0.085	0.666	28
	Masculine	0.407	0.054	26
Vessels	Overall	0.071	0.627	67
	Feminine	0.254	0.193	28
	Masculine	-0.279	0.198	26
Tools	Overall	0.302	0.033	67
	Feminine	0.399	0.035	28
	Masculine	-	-	0
Amulets	Overall	0.212	0.140	67
	Feminine	0.277	0.154	28
	Masculine	-	-	0
Animal Remains	Overall	0.212	0.140	67
	Feminine	0.277	0.154	28
	Masculine	-	-	0
Coins	Overall	0.072	0.619	67
	Feminine	0.073	0.714	28
	Masculine	-	-	0

Table 19: Mucking. All tests were carried out on the entire cemetery sequence

Type of Grave Good		R_s-value	P-value	N
Total Number	Overall	-0.174	0.0300	156
	Feminine	0.065	0.5620	81
	Masculine	-0.369	0.0020	69
Dress Accessories	Overall	-0.376	<0.0005	156
	Feminine	-0.350	0.0010	81
	Masculine	-0.284	0.0180	69
Jewellery	Overall	-0.025	0.7580	
	Feminine	0.219	0.0500	81
	Masculine	-	-	0

Personal Accessories	Overall	-0.042	0.6070	156
	Feminine	0.177	0.1150	81
	Masculine	-0.343	0.0040	69
Fittings	Overall	-0.096	0.2330	156
	Feminine	0.239	0.0320	81
	Masculine	-0.404	0.0010	69
Weapons	Overall	0.295	<0.0005	156
	Feminine	-	-	0
	Masculine	0.218	0.0730	69
Cosmetics	Overall	-0.063	0.4310	156
	Feminine	0.095	0.3990	81
	Masculine	-0.218	0.0730	69
Vessels	Overall	-0.229	0.0040	156
	Feminine	-0.213	0.0560	81
	Masculine	-0.272	0.0240	69
Tools	Overall	-0.032	0.6880	156
	Feminine	0.193	0.0840	81
	Masculine	-0.281	0.0190	69
Animal Remains	Overall	-0.029	0.7230	156
	Feminine	-0.005	0.9610	81
	Masculine	-	-	0
Coins	Overall	-0.122	0.1290	156
	Feminine	-0.086	0.4460	81
	Masculine	-0.160	0.1890	69

2.3.2. Two-Way ANOVAs

The combined effects of location and object type on date were assessed using a two-way ANOVA. In order for a two-way ANOVA to achieve accurate results, it must meet certain assumptions; there must be no significant outliers, the dependent variable should be approximately normally distributed, and the variance of the dependent variables should be equal (Laerd Statistics 2015). Although, the first assumption was met in all instances, the second, for normally distributed data, was violated in each instance. With large sample sizes, as is the case here, the two-way ANOVA is robust to skews in the distribution of the data, although the acceptable level of skew is debated. More of an issue was the violation of the assumption of homogeneity of variances. I attempted several transformations of the data, but none provided an improvement. As no alternative test more suitable to the data was possible, I continued with the two-way ANOVAs regardless, but a note of caution should be attached to the conclusions.

The method for carrying out a two-way ANOVA, as done automatically in SPSS, was modified using the following code laid out in Laerd Statistics 2015, in order to provide pairwise comparisons between locations and grave good types:

```
UNIANOVA Date BY GraveGood Location
 /METHOD=SSTYPE(3)
 /INTERCEPT=INCLUDE
 /PLOT=PROFILE(GraveGood*Location Location*GraveGood)
 /EMMEANS=TABLES(GraveGood*Location) COMPARE(GraveGood)
```

```
/EMMEANS=TABLES(GraveGood*Location) COMPARE(Location)
/PRINT=ETASQ HOMOGENEITY DESCRIPTIVE
/CRITERIA=ALPHA(.05)
/DESIGN=GraveGood Location GraveGood*Location.
```

Pleidelsheim

Outliers: No outliers; assumption met

Normal Distribution of Dependent variable: Assumption violated

Tests of Normality

	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Date	.120	691	.000	.961	691	.000

a. Lilliefors Significance Correction

Homogeneity of variances: Assumption violated

Levene's Test of Equality of Error Variances[a,b]

		Levene Statistic	df1	df2	Sig.
Date	Based on Mean	1.722	27	660	.013
	Based on Median	1.335	27	660	.121
	Based on Median and with adjusted df	1.335	27	602.521	.121
	Based on trimmed mean	1.735	27	660	.012

Tests the null hypothesis that the error variance of the dependent variable is equal across groups.

a. Dependent variable: Date

b. Design: Intercept + Grave_Good + Location + Grave_Good * Location

Results

Tests of Between-Subjects Effects

Dependent Variable: Date

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Corrected Model	202833.795[a]	30	6761.127	2.748	.000	.111
Intercept	40845952.987	1	40845952.987	16602.693	.000	.962
Grave_Good	26437.921	10	2643.792	1.075	.379	.016
Location	28939.543	2	14469.772	5.882	.003	.018
Grave_Good * Location	72806.738	18	4044.819	1.644	.045	.043
Error	1623732.306	660	2460.200			

Total	220962507.000	691				
Corrected Total	1826566.101	690				

a. R Squared = .111 (Adjusted R Squared = .071)

Pairwise Comparisons

Dependent Variable: Date

Grave_Good	(I) Location	(J) Location	Mean Difference (I-J)	Std. Error	Sig.[d]	95% Confidence Interval for Difference[d] Lower Bound	Upper Bound
Amulet	In grave	Next to	.[a]	.	.	.	.
		On body	.[a]	.	.	.	.
	Next to	In grave	.[b]	.	.	.	.
		On body	49.000	57.274	.393	-63.460	161.460
	On body	In grave	.[b]	.	.	.	.
		Next to	-49.000	57.274	.393	-161.460	63.460
Animal R	In grave	Next to	58.528*	21.872	.008	15.581	101.474
		On body	51.750	37.883	.172	-22.636	126.136
	Next to	In grave	-58.528*	21.872	.008	-101.474	-15.581
		On body	-6.778	38.774	.861	-82.914	69.358
	On body	In grave	-51.750	37.883	.172	-126.136	22.636
		Next to	6.778	38.774	.861	-69.358	82.914
Coin	In grave	Next to	.[a]	.	.	.	.
		On body	.[a]	.	.	.	.
	Next to	In grave	.[b]	.	.	.	.
		On body	2.000	60.748	.974	-117.282	121.282
	On body	In grave	.[b]	.	.	.	.
		Next to	-2.000	60.748	.974	-121.282	117.282
Cosmetic	In grave	Next to	21.445	13.930	.124	-5.907	48.797
		On body	34.976*	15.932	.028	3.693	66.260
	Next to	In grave	-21.445	13.930	.124	-48.797	5.907
		On body	13.531	14.614	.355	-15.164	42.226
	On body	In grave	-34.976*	15.932	.028	-66.260	-3.693
		Next to	-13.531	14.614	.355	-42.226	15.164
Dress Ac	In grave	Next to	-30.011	19.563	.125	-68.424	8.401
		On body	8.711	16.395	.595	-23.482	40.904
	Next to	In grave	30.011	19.563	.125	-8.401	68.424
		On body	38.722*	12.628	.002	13.927	63.517
	On body	In grave	-8.711	16.395	.595	-40.904	23.482
		Next to	-38.722*	12.628	.002	-63.517	-13.927
Fitting	In grave	Next to	19.889	19.387	.305	-18.179	57.957
		On body	42.704*	19.091	.026	5.217	80.191
	Next to	In grave	-19.889	19.387	.305	-57.957	18.179

		On body	22.815	13.915	.102	-4.508	50.138
	On body	In grave	-42.704*	19.091	.026	-80.191	-5.217
		Next to	-22.815	13.915	.102	-50.138	4.508
Jeweller	In grave	Next to	-5.909	23.981	.805	-52.998	41.180
		On body	1.239	19.650	.950	-37.344	39.823
	Next to	In grave	5.909	23.981	.805	-41.180	52.998
		On body	7.149	16.072	.657	-24.410	38.707
	On body	In grave	-1.239	19.650	.950	-39.823	37.344
		Next to	-7.149	16.072	.657	-38.707	24.410
Personal	In grave	Next to	-10.282	23.408	.661	-56.246	35.682
		On body	32.400	23.045	.160	-12.851	77.651
	Next to	In grave	10.282	23.408	.661	-35.682	56.246
		On body	42.682*	9.745	.000	23.547	61.817
	On body	In grave	-32.400	23.045	.160	-77.651	12.851
		Next to	-42.682*	9.745	.000	-61.817	-23.547
Tool	In grave	Next to	4.000	24.800	.872	-44.697	52.697
		On body	-14.333	26.787	.593	-66.932	38.265
	Next to	In grave	-4.000	24.800	.872	-52.697	44.697
		On body	-18.333	22.639	.418	-62.787	26.121
	On body	In grave	14.333	26.787	.593	-38.265	66.932
		Next to	18.333	22.639	.418	-26.121	62.787
Vessel	In grave	Next to	42.768*	13.376	.001	16.503	69.033
		On body	93.818	50.161	.062	-4.676	192.312
	Next to	In grave	-42.768*	13.376	.001	-69.033	-16.503
		On body	51.050	50.825	.316	-48.749	150.849
	On body	In grave	-93.818	50.161	.062	-192.312	4.676
		Next to	-51.050	50.825	.316	-150.849	48.749
Weapon	In grave	Next to	13.552	12.484	.278	-10.962	38.066
		On body	24.085	12.554	.055	-.566	48.736
	Next to	In grave	-13.552	12.484	.278	-38.066	10.962
		On body	10.533	11.456	.358	-11.961	33.028
	On body	In grave	-24.085	12.554	.055	-48.736	.566
		Next to	-10.533	11.456	.358	-33.028	11.961

Based on estimated marginal means

*. The mean difference is significant at the .05 level.

a. The level combination of factors in (I) is not observed.

b. The level combination of factors in (J) is not observed.

d. Adjustment for multiple comparisons: Least Significant Difference (equivalent to no adjustments).

Grande Oye

Outliers: 1 outlier out of 350 cases; assumption met

Normal Distribution of Dependent variable: Assumption violated

Tests of Normality

	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Date	.208	350	.000	.919	350	.000

a. Lilliefors Significance Correction

Homogeneity of variances: Assumption violated

Levene's Test of Equality of Error Variances[a,b]

		Levene Statistic	df1	df2	Sig.
Date	Based on Mean	2.758	22	281	.000
	Based on Median	1.557	22	281	.056
	Based on Median and with adjusted df	1.557	22	224.372	.058
	Based on trimmed mean	2.608	22	281	.000

Tests the null hypothesis that the error variance of the dependent variable is equal across groups.

a. Dependent variable: Date

b. Design: Intercept + TypeGraveGood + Location + TypeGraveGood * Location

Results

Tests of Between-Subjects Effects

Dependent Variable: Date

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Corrected Model	52212.008[a]	28	1864.715	1.575	.036	.136
Intercept	22531415.117	1	22531415.117	19028.687	.000	.985
TypeGraveGood	17447.563	10	1744.756	1.474	.149	.050
Location	2375.724	3	791.908	.669	.572	.007
TypeGraveGood * Location	26861.419	15	1790.761	1.512	.100	.075
Error	332725.412	281	1184.076			
Total	132375900.000	310				
Corrected Total	384937.419	309				

a. R Squared = .136 (Adjusted R Squared = .050)

Pairwise Comparisons

Dependent Variable: Date

TypeGraveGood	(I) Location	(J) Location	Std. Error	Sig.[d]	95% Confidence Interval for Difference[d]

			Mean Difference (I-J)			Lower Bound	Upper Bound
Coin		In the grave	.[b]	.	.	.	.
		Next to the	.[b]	.	.	.	.
		On the body	.[b]	.	.	.	.
	In the grave		.[a]	.	.	.	.
		Next to the	-75.000	42.144	.076	-157.958	7.958
		On the body	-110.000*	42.144	.010	-192.958	-27.042
	Next to the		.[a]	.	.	.	.
		In the grave	75.000	42.144	.076	-7.958	157.958
		On the body	-35.000	34.410	.310	-102.735	32.735
	On the body		.[a]	.	.	.	.
		In the grave	110.000*	42.144	.010	27.042	192.958
		Next to the	35.000	34.410	.310	-32.735	102.735
Dress Accessory		In the grave	-22.333	22.652	.325	-66.922	22.255
		Next to the	-4.526	13.443	.737	-30.989	21.936
		On the body	-7.308	11.689	.532	-30.316	15.701
	In the grave		22.333	22.652	.325	-22.255	66.922
		Next to the	17.807	21.378	.406	-24.274	59.888
		On the body	15.026	20.320	.460	-24.973	55.025
	Next to the		4.526	13.443	.737	-21.936	30.989
		In the grave	-17.807	21.378	.406	-59.888	24.274
		On the body	-2.781	8.974	.757	-20.447	14.884
	On the body		7.308	11.689	.532	-15.701	30.316
		In the grave	-15.026	20.320	.460	-55.025	24.973
		Next to the	2.781	8.974	.757	-14.884	20.447
Fitting		In the grave	-24.750	23.083	.285	-70.188	20.688
		Next to the	-12.154	16.803	.470	-45.231	20.923

		On the body	-11.833	16.916	.485	-45.132	21.465
	In the grave		24.750	23.083	.285	-20.688	70.188
		Next to the	12.596	18.481	.496	-23.783	48.976
		On the body	12.917	18.584	.488	-23.664	49.498
	Next to the		12.154	16.803	.470	-20.923	45.231
		In the grave	-12.596	18.481	.496	-48.976	23.783
		On the body	.321	9.741	.974	-18.853	19.494
	On the body		11.833	16.916	.485	-21.465	45.132
		In the grave	-12.917	18.584	.488	-49.498	23.664
		Next to the	-.321	9.741	.974	-19.494	18.853
Jewellery		In the grave	-7.500	42.144	.859	-90.458	75.458
		Next to the	17.000	37.695	.652	-57.200	91.200
		On the body	-6.000	34.979	.864	-74.855	62.855
	In the grave		7.500	42.144	.859	-75.458	90.458
		Next to the	24.500	28.790	.395	-32.171	81.171
		On the body	1.500	25.130	.952	-47.967	50.967
	Next to the		-17.000	37.695	.652	-91.200	57.200
		In the grave	-24.500	28.790	.395	-81.171	32.171
		On the body	-23.000	16.622	.168	-55.719	9.719
	On the body		6.000	34.979	.864	-62.855	74.855
		In the grave	-1.500	25.130	.952	-50.967	47.967
		Next to the	23.000	16.622	.168	-9.719	55.719
Personal Accessory		In the grave	-9.167	28.096	.744	-64.472	46.139
		Next to the	18.728	16.114	.246	-12.992	50.448
		On the body	15.833	16.221	.330	-16.097	47.764
	In the grave		9.167	28.096	.744	-46.139	64.472
		Next to the	27.895	25.580	.276	-22.459	78.248
		On the body	25.000	25.648	.331	-25.487	75.487
	Next to the		-18.728	16.114	.246	-50.448	12.992

		In the grave	-27.895	25.580	.276	-78.248	22.459
		On the body	-2.895	11.318	.798	-25.174	19.384
	On the body		-15.833	16.221	.330	-47.764	16.097
		In the grave	-25.000	25.648	.331	-75.487	25.487
		Next to the	2.895	11.318	.798	-19.384	25.174
Tool		In the grave	.[b]	.	.	.	.
		Next to the	.[b]	.	.	.	.
		On the body	.[b]	.	.	.	.
	In the grave		.[a]	.	.	.	.
		Next to the	17.500	42.144	.678	-65.458	100.458
		On the body	75.000	48.664	.124	-20.792	170.792
	Next to the		.[a]	.	.	.	.
		In the grave	-17.500	42.144	.678	-100.458	65.458
		On the body	57.500	42.144	.174	-25.458	140.458
	On the body		.[a]	.	.	.	.
		In the grave	-75.000	48.664	.124	-170.792	20.792
		Next to the	-57.500	42.144	.174	-140.458	25.458
Weapon		In the grave	.[a]	.	.	.	.
		Next to the	-58.000*	18.847	.002	-95.100	-20.900
		On the body	-52.560*	18.772	.005	-89.512	-15.607
	In the grave		.[b]	.	.	.	.
		Next to the	.[b]	.	.	.	.
		On the body	.[b]	.	.	.	.
	Next to the		58.000*	18.847	.002	20.900	95.100
		In the grave	.[a]	.	.	.	.
		On the body	5.440	10.751	.613	-15.723	26.604
	On the body		52.560*	18.772	.005	15.607	89.512
		In the grave	.[a]	.	.	.	.

	Next to the	-5.440	10.751	.613	-26.604	15.723

Based on estimated marginal means

*. The mean difference is significant at the .05 level.

a. The level combination of factors in (J) is not observed.

b. The level combination of factors in (I) is not observed.

d. Adjustment for multiple comparisons: Least Significant Difference (equivalent to no adjustments).

Cutry

Outliers: No outliers; assumption met

Normal Distribution of Dependent variable: Assumption violated

Tests of Normality

	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Date	.189	1053	.000	.912	1053	.000

a. Lilliefors Significance Correction

Homogeneity of variances: Assumption violated

Levene's Test of Equality of Error Variances[a,b]

		Levene Statistic	df1	df2	Sig.
Date	Based on Mean	2.819	31	901	.000
	Based on Median	2.082	31	901	.001
	Based on Median and with adjusted df	2.082	31	760.012	.001
	Based on trimmed mean	2.683	31	901	.000

Tests the null hypothesis that the error variance of the dependent variable is equal across groups.

a. Dependent variable: Date

b. Design: Intercept + TypeGraveGood + Location + TypeGraveGood * Location

Results

Tests of Between-Subjects Effects

Dependent Variable: Date

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Corrected Model	258084.925[a]	39	6617.562	3.245	.000	.123
Intercept	25934233.223	1	25934233.223	12716.844	.000	.934
TypeGraveGood	59475.611	11	5406.874	2.651	.002	.031
Location	26970.434	3	8990.145	4.408	.004	.014
TypeGraveGood * Location	71050.437	25	2842.017	1.394	.095	.037
Error	1837464.065	901	2039.361			

Total	294043200.000	941				
Corrected Total	2095548.990	940				

a. R Squared = .123 (Adjusted R Squared = .085)

Pairwise Comparisons

Dependent Variable: Date

TypeGraveGood	(I) Location	(J) Location	Mean Difference (I-J)	Std. Error	Sig.[d]	95% Confidence Interval for Difference[d] Lower Bound	Upper Bound
Amulet		In grave	.[a,b]	.	.	.	.
		Next to the	.[b]	.	.	.	.
		On the Body	.[b]	.	.	.	.
	In grave		.[a,b]	.	.	.	.
		Next to the	.[b]	.	.	.	.
		On the Body	.[b]	.	.	.	.
	Next to the		.[a]	.	.	.	.
		In grave	.[a]	.	.	.	.
		On the Body	-80.000	63.865	.211	-205.341	45.341
	On the Body		.[a]	.	.	.	.
		In grave	.[a]	.	.	.	.
		Next to the	80.000	63.865	.211	-45.341	205.341
Coin		In grave	-40.000	55.309	.470	-148.549	68.549
		Next to the	-2.500	34.491	.942	-70.192	65.192
		On the Body	-13.214	33.053	.689	-78.085	51.656
	In grave		40.000	55.309	.470	-68.549	148.549
		Next to the	37.500	47.003	.425	-54.749	129.749
		On the Body	26.786	45.959	.560	-63.413	116.984
	Next to the		2.500	34.491	.942	-65.192	70.192
		In grave	-37.500	47.003	.425	-129.749	54.749
		On the Body	-10.714	15.581	.492	-41.294	19.866
	On the Body		13.214	33.053	.689	-51.656	78.085
		In grave	-26.786	45.959	.560	-116.984	63.413
		Next to the	10.714	15.581	.492	-19.866	41.294
Cosmetic		In grave	-32.500	50.490	.520	-131.591	66.591
		Next to the	27.283	23.541	.247	-18.919	73.484

		On the Body	45.682	24.547	.063	-2.493	93.857
	In grave		32.500	50.490	.520	-66.591	131.591
		Next to the	59.783	45.648	.191	-29.805	149.370
		On the Body	78.182	46.174	.091	-12.440	168.803
	Next to the		-27.283	23.541	.247	-73.484	18.919
		In grave	-59.783	45.648	.191	-149.370	29.805
		On the Body	18.399	11.706	.116	-4.575	41.374
	On the Body		-45.682	24.547	.063	-93.857	2.493
		In grave	-78.182	46.174	.091	-168.803	12.440
		Next to the	-18.399	11.706	.116	-41.374	4.575
Dress Accessory		In grave	25.714	33.418	.442	-39.873	91.301
		Next to the	30.992*	14.506	.033	2.524	59.461
		On the Body	38.091*	10.474	.000	17.535	58.647
	In grave		-25.714	33.418	.442	-91.301	39.873
		Next to the	5.278	33.660	.875	-60.783	71.338
		On the Body	12.377	32.129	.700	-50.680	75.433
	Next to the		-30.992*	14.506	.033	-59.461	-2.524
		In grave	-5.278	33.660	.875	-71.338	60.783
		On the Body	7.099	11.220	.527	-14.921	29.119
	On the Body		-38.091*	10.474	.000	-58.647	-17.535
		In grave	-12.377	32.129	.700	-75.433	50.680
		Next to the	-7.099	11.220	.527	-29.119	14.921
Fitting		In grave	83.462*	34.301	.015	16.143	150.781
		Next to the	26.854	15.156	.077	-2.891	56.600
		On the Body	19.275	14.293	.178	-8.777	47.328
	In grave		-83.462*	34.301	.015	-150.781	-16.143
		Next to the	-56.607	33.053	.087	-121.477	8.263
		On the Body	-64.186*	32.667	.050	-128.298	-.075
	Next to the		-26.854	15.156	.077	-56.600	2.891
		In grave	56.607	33.053	.087	-8.263	121.477
		On the Body	-7.579	10.966	.490	-29.102	13.944
	On the Body		-19.275	14.293	.178	-47.328	8.777
		In grave	64.186*	32.667	.050	.075	128.298
		Next to the	7.579	10.966	.490	-13.944	29.102

Jewellery		In grave	56.250	47.899	.241	-37.756	150.256
		Next to the	15.139	21.943	.490	-27.927	58.205
		On the Body	14.934	16.786	.374	-18.009	47.877
	In grave		-56.250	47.899	.241	-150.256	37.756
		Next to the	-41.111	47.602	.388	-134.535	52.313
		On the Body	-41.316	45.455	.364	-130.527	47.895
	Next to the		-15.139	21.943	.490	-58.205	27.927
		In grave	41.111	47.602	.388	-52.313	134.535
		On the Body	-.205	15.919	.990	-31.448	31.039
	On the Body		-14.934	16.786	.374	-47.877	18.009
		In grave	41.316	45.455	.364	-47.895	130.527
		Next to the	.205	15.919	.990	-31.039	31.448
Personal Accessory		In grave	102.500*	33.869	.003	36.028	168.972
		Next to the	51.800*	12.971	.000	26.343	77.257
		On the Body	39.755*	12.143	.001	15.923	63.587
	In grave		-102.500*	33.869	.003	-168.972	-36.028
		Next to the	-50.700	32.565	.120	-114.612	13.212
		On the Body	-62.745	32.244	.052	-126.027	.537
	Next to the		-51.800*	12.971	.000	-77.257	-26.343
		In grave	50.700	32.565	.120	-13.212	114.612
		On the Body	-12.045	7.796	.123	-27.346	3.256
	On the Body		-39.755*	12.143	.001	-63.587	-15.923
		In grave	62.745	32.244	.052	-.537	126.027
		Next to the	12.045	7.796	.123	-3.256	27.346
Tool		In grave	80.000	63.865	.211	-45.341	205.341
		Next to the	15.000	49.470	.762	-82.089	112.089
		On the Body	71.500	47.363	.131	-21.456	164.456
	In grave		-80.000	63.865	.211	-205.341	45.341
		Next to the	-65.000	49.470	.189	-162.089	32.089
		On the Body	-8.500	47.363	.858	-101.456	84.456
	Next to the		-15.000	49.470	.762	-112.089	82.089
		In grave	65.000	49.470	.189	-32.089	162.089
		On the Body	56.500*	24.735	.023	7.956	105.044
			-71.500	47.363	.131	-164.456	21.456

	On the Body	In grave	8.500	47.363	.858	-84.456	101.456
		Next to the	-56.500*	24.735	.023	-105.044	-7.956
Vessel		In grave	23.056	18.436	.211	-13.127	59.238
		Next to the	28.542	15.966	.074	-2.794	59.877
		On the Body	65.000	35.303	.066	-4.285	134.285
	In grave		-23.056	18.436	.211	-59.238	13.127
		Next to the	5.486	11.901	.645	-17.870	28.842
		On the Body	41.944	33.660	.213	-24.116	108.005
	Next to the		-28.542	15.966	.074	-59.877	2.794
		In grave	-5.486	11.901	.645	-28.842	17.870
		On the Body	36.458	32.373	.260	-27.077	99.993
	On the Body		-65.000	35.303	.066	-134.285	4.285
		In grave	-41.944	33.660	.213	-108.005	24.116
		Next to the	-36.458	32.373	.260	-99.993	27.077
Weapon		In grave	35.513*	17.112	.038	1.928	69.097
		Next to the	23.640	12.759	.064	-1.400	48.681
		On the Body	5.417	13.673	.692	-21.417	32.251
	In grave		-35.513*	17.112	.038	-69.097	-1.928
		Next to the	-11.872	13.554	.381	-38.473	14.728
		On the Body	-30.096*	14.417	.037	-58.392	-1.801
	Next to the		-23.640	12.759	.064	-48.681	1.400
		In grave	11.872	13.554	.381	-14.728	38.473
		On the Body	-18.224*	8.821	.039	-35.537	-.911
	On the Body		-5.417	13.673	.692	-32.251	21.417
		In grave	30.096*	14.417	.037	1.801	58.392
		Next to the	18.224*	8.821	.039	.911	35.537

Based on estimated marginal means

*. The mean difference is significant at the .05 level.

a. The level combination of factors in (J) is not observed.

b. The level combination of factors in (I) is not observed.

d. Adjustment for multiple comparisons: Least Significant Difference (equivalent to no adjustments).

Bulles

Outliers: 10 outliers out of 1772 cases; assumption met

Normal Distribution of Dependent variable: Assumption violated

Tests of Normality

	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Date	.131	1772	.000	.957	1772	.000

a. Lilliefors Significance Correction

Homogeneity of variances: Assumption violated

Levene's Test of Equality of Error Variances[a,b]

		Levene Statistic	df1	df2	Sig.
Date	Based on Mean	1.770	34	983	.005
	Based on Median	1.143	34	983	.265
	Based on Median and with adjusted df	1.143	34	658.970	.267
	Based on trimmed mean	1.607	34	983	.016

Tests the null hypothesis that the error variance of the dependent variable is equal across groups.

a. Dependent variable: Date

b. Design: Intercept + TypeGraveGood + Location + TypeGraveGood * Location

Results

Tests of Between-Subjects Effects

Dependent Variable: Date

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Corrected Model	953598.180[a]	38	25094.689	6.613	.000	.204
Intercept	23254006.026	1	23254006.026	6128.399	.000	.862
TypeGraveGood	622528.776	12	51877.398	13.672	.000	.143
Location	17854.707	3	5951.569	1.568	.195	.005
TypeGraveGood * Location	118798.634	23	5165.158	1.361	.119	.031
Error	3729960.812	983	3794.467			
Total	334242859.000	1022				
Corrected Total	4683558.991	1021				

a. R Squared = .204 (Adjusted R Squared = .173)

Pairwise Comparisons

Dependent Variable: Date

TypeGraveGood	(I) Location	(J) Location	Mean Difference (I-J)	Std. Error	Sig.[d]	95% Confidence Interval for Difference[d]	
						Lower Bound	Upper Bound
Coin		In grave	.[a]	.	.	.	.

		Next to body	23.000	64.606	.722	-103.781	149.781
		On the body	-27.714	30.356	.361	-87.285	31.857
	In grave		.[b]	.	.	.	.
		Next to body	.[b]	.	.	.	.
		On the body	.[b]	.	.	.	.
	Next to body		-23.000	64.606	.722	-149.781	103.781
		In grave	.[a]	.	.	.	.
		On the body	-50.714	65.852	.441	-179.942	78.513
	On the body		27.714	30.356	.361	-31.857	87.285
		In grave	.[a]	.	.	.	.
		Next to body	50.714	65.852	.441	-78.513	179.942
Cosmetic		In grave	-52.500	56.232	.351	-162.849	57.849
		Next to body	-21.667	50.296	.667	-120.366	77.032
		On the body	28.750	47.047	.541	-63.574	121.074
	In grave		52.500	56.232	.351	-57.849	162.849
		Next to body	30.833	56.232	.584	-79.516	141.182
		On the body	81.250	53.347	.128	-23.436	185.936
	Next to body		21.667	50.296	.667	-77.032	120.366
		In grave	-30.833	56.232	.584	-141.182	79.516
		On the body	50.417	47.047	.284	-41.908	142.741
	On the body		-28.750	47.047	.541	-121.074	63.574
		In grave	-81.250	53.347	.128	-185.936	23.436
		Next to body	-50.417	47.047	.284	-142.741	41.908
Dress Accessory		In grave	-135.000*	44.112	.002	-221.565	-48.435
		Next to body	15.417	19.101	.420	-22.067	52.900
		On the body	-17.891*	8.848	.043	-35.254	-.527
	In grave		135.000*	44.112	.002	48.435	221.565
		Next to body	150.417*	47.047	.001	58.092	242.741

		On the body	117.109*	43.896	.008	30.968	203.250
	Next to body		-15.417	19.101	.420	-52.900	22.067
		In grave	-150.417*	47.047	.001	-242.741	-58.092
		On the body	-33.307	18.597	.074	-69.802	3.187
	On the body		17.891*	8.848	.043	.527	35.254
		In grave	-117.109*	43.896	.008	-203.250	-30.968
		Next to body	33.307	18.597	.074	-3.187	69.802
Fitting		In grave	-33.923	26.283	.197	-85.500	17.654
		Next to body	-13.696	15.194	.368	-43.512	16.120
		On the body	-12.295	12.109	.310	-36.057	11.467
	In grave		33.923	26.283	.197	-17.654	85.500
		Next to body	20.227	28.371	.476	-35.446	75.901
		On the body	21.628	26.845	.421	-31.052	74.308
	Next to body		13.696	15.194	.368	-16.120	43.512
		In grave	-20.227	28.371	.476	-75.901	35.446
		On the body	1.401	16.147	.931	-30.286	33.087
	On the body		12.295	12.109	.310	-11.467	36.057
		In grave	-21.628	26.845	.421	-74.308	31.052
		Next to body	-1.401	16.147	.931	-33.087	30.286
Jewellery		In grave	23.598	44.607	.597	-63.938	111.133
		Next to body	2.209	22.675	.922	-42.288	46.706
		On the body	25.925	14.946	.083	-3.405	55.255
	In grave		-23.598	44.607	.597	-111.133	63.938
		Next to body	-21.389	48.154	.657	-115.886	73.108
		On the body	2.328	45.034	.959	-86.047	90.702
	Next to body		-2.209	22.675	.922	-46.706	42.288
		In grave	21.389	48.154	.657	-73.108	115.886
		On the body	23.716	23.504	.313	-22.408	69.841
			-25.925	14.946	.083	-55.255	3.405

	On the body	In grave	-2.328	45.034	.959	-90.702	86.047
		Next to body	-23.716	23.504	.313	-69.841	22.408
Personal Accessory		In grave	29.189	44.142	.509	-57.434	115.812
		Next to body	-14.180	14.706	.335	-43.038	14.678
		On the body	-1.644	9.906	.868	-21.083	17.795
	In grave		-29.189	44.142	.509	-115.812	57.434
		Next to body	-43.370	45.412	.340	-132.484	45.745
		On the body	-30.833	44.092	.485	-117.358	55.691
	Next to body		14.180	14.706	.335	-14.678	43.038
		In grave	43.370	45.412	.340	-45.745	132.484
		On the body	12.536	14.554	.389	-16.024	41.097
	On the body		1.644	9.906	.868	-17.795	21.083
		In grave	30.833	44.092	.485	-55.691	117.358
		Next to body	-12.536	14.554	.389	-41.097	16.024
Tool		In grave	-20.000	61.599	.745	-140.881	100.881
		Next to body	-17.500	61.599	.776	-138.381	103.381
		On the body	10.000	61.599	.871	-110.881	130.881
	In grave		20.000	61.599	.745	-100.881	140.881
		Next to body	2.500	61.599	.968	-118.381	123.381
		On the body	30.000	61.599	.626	-90.881	150.881
	Next to body		17.500	61.599	.776	-103.381	138.381
		In grave	-2.500	61.599	.968	-123.381	118.381
		On the body	27.500	61.599	.655	-93.381	148.381
	On the body		-10.000	61.599	.871	-130.881	110.881
		In grave	-30.000	61.599	.626	-150.881	90.881
		Next to body	-27.500	61.599	.655	-148.381	93.381
Vessel		In grave	-25.321	14.944	.091	-54.647	4.005
		Next to body	-24.916*	8.730	.004	-42.048	-7.785

		On the body	13.727	25.982	.597	-37.259	64.712
	In grave		25.321	14.944	.091	-4.005	54.647
		Next to body	.405	14.638	.978	-28.321	29.130
		On the body	39.048	28.515	.171	-16.909	95.005
	Next to body		24.916*	8.730	.004	7.785	42.048
		In grave	-.405	14.638	.978	-29.130	28.321
		On the body	38.643	25.807	.135	-12.000	89.286
	On the body		-13.727	25.982	.597	-64.712	37.259
		In grave	-39.048	28.515	.171	-95.005	16.909
		Next to body	-38.643	25.807	.135	-89.286	12.000
Weapon		In grave	-46.058	26.127	.078	-97.329	5.212
		Next to body	-50.682*	15.505	.001	-81.108	-20.256
		On the body	-59.630*	21.372	.005	-101.569	-17.691
	In grave		46.058	26.127	.078	-5.212	97.329
		Next to body	-4.624	25.336	.855	-54.343	45.095
		On the body	-13.571	29.296	.643	-71.062	43.919
	Next to body		50.682*	15.505	.001	20.256	81.108
		In grave	4.624	25.336	.855	-45.095	54.343
		On the body	-8.947	20.398	.661	-48.975	31.080
	On the body		59.630*	21.372	.005	17.691	101.569
		In grave	13.571	29.296	.643	-43.919	71.062
		Next to body	8.947	20.398	.661	-31.080	48.975

Based on estimated marginal means

*. The mean difference is significant at the .05 level.

a. The level combination of factors in (J) is not observed.

b. The level combination of factors in (I) is not observed.

d. Adjustment for multiple comparisons: Least Significant Difference (equivalent to no adjustments).

Altenerding

Outliers: No outliers; assumption met

Normal Distribution of Dependent variable: Assumption violated

Tests of Normality

	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Date	.142	1492	.000	.933	1492	.000

a. Lilliefors Significance Correction

Homogeneity of variances: Assumption violated

Levene's Test of Equality of Error Variances[a,b]

		Levene Statistic	df1	df2	Sig.
Date	Based on Mean	1.975	30	1460	.001
	Based on Median	1.681	30	1460	.012
	Based on Median and with adjusted df	1.681	30	1353.146	.012
	Based on trimmed mean	2.071	30	1460	.001

Tests the null hypothesis that the error variance of the dependent variable is equal across groups.

a. Dependent variable: Date

b. Design: Intercept + TypeGraveGood + Location + TypeGraveGood * Location

Results

Tests of Between-Subjects Effects

Dependent Variable: Date

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Corrected Model	386770.916[a]	31	12476.481	5.436	.000	.103
Intercept	27617218.236	1	27617218.236	12031.938	.000	.892
TypeGraveGood	23161.094	9	2573.455	1.121	.344	.007
Location	17926.512	3	5975.504	2.603	.051	.005
TypeGraveGood * Location	104438.178	19	5496.746	2.395	.001	.030
Error	3351175.867	1460	2295.326			
Total	477516350.000	1492				
Corrected Total	3737946.783	1491				

a. R Squared = .103 (Adjusted R Squared = .084)

Pairwise Comparisons

Dependent Variable: Date

TypeGraveGood	(I) Location	(J) Location	Mean Difference (I-J)	Std. Error	Sig.[d]	95% Confidence Interval for Difference[d]	
						Lower Bound	Upper Bound
Animal Remains		In Grave	.[a]	.	.	.	.

		Next to Body	.[a]	.	.	.	.
		On Body	.[a,b]	.	.	.	.
	In Grave		.[b]	.	.	.	.
		Next to Body	76.667*	30.925	.013	16.004	137.330
		On Body	.[b]	.	.	.	.
	Next to Body		.[b]	.	.	.	.
		In Grave	-76.667*	30.925	.013	-137.330	-16.004
		On Body	.[b]	.	.	.	.
	On Body		.[a,b]	.	.	.	.
		In Grave	.[a]	.	.	.	.
		Next to Body	.[a]	.	.	.	.
Coins		In Grave	.[a,b]	.	.	.	.
		Next to Body	.[a]	.	.	.	.
		On Body	.[a]	.	.	.	.
	In Grave		.[a,b]	.	.	.	.
		Next to Body	.[a]	.	.	.	.
		On Body	.[a]	.	.	.	.
	Next to Body		.[b]	.	.	.	.
		In Grave	.[b]	.	.	.	.
		On Body	10.833	37.453	.772	-62.633	84.300
	On Body		.[b]	.	.	.	.
		In Grave	.[b]	.	.	.	.
		Next to Body	-10.833	37.453	.772	-84.300	62.633
Cosmetic		In Grave	.[a]	.	.	.	.
		Next to Body	.[a]	.	.	.	.
		On Body	.[a]	.	.	.	.
	In Grave		.[b]	.	.	.	.
		Next to Body	.294	22.452	.990	-43.747	44.335
		On Body	28.667	24.740	.247	-19.864	77.197
	Next to Body		.[b]	.	.	.	.
		In Grave	-.294	22.452	.990	-44.335	43.747
		On Body	28.373*	14.072	.044	.769	55.977
	On Body		.[b]	.	.	.	.
		In Grave	-28.667	24.740	.247	-77.197	19.864

		Next to Body	-28.373*	14.072	.044	-55.977	-.769
Dress Accessory		In Grave	-75.833	43.735	.083	-161.624	9.957
		Next to Body	-33.242	34.095	.330	-100.122	33.639
		On Body	-21.777	33.986	.522	-88.443	44.890
	In Grave		75.833	43.735	.083	-9.957	161.624
		Next to Body	42.591	27.927	.127	-12.190	97.373
		On Body	54.057	27.794	.052	-.463	108.577
	Next to Body		33.242	34.095	.330	-33.639	100.122
		In Grave	-42.591	27.927	.127	-97.373	12.190
		On Body	11.465*	4.711	.015	2.225	20.706
	On Body		21.777	33.986	.522	-44.890	88.443
		In Grave	-54.057	27.794	.052	-108.577	.463
		Next to Body	-11.465*	4.711	.015	-20.706	-2.225
Fittings		In Grave	.[a]	.	.	.	.
		Next to Body	.[a]	.	.	.	.
		On Body	.[a]	.	.	.	.
	In Grave		.[b]	.	.	.	.
		Next to Body	14.141	15.731	.369	-16.717	44.998
		On Body	4.571	16.196	.778	-27.199	36.342
	Next to Body		.[b]	.	.	.	.
		In Grave	-14.141	15.731	.369	-44.998	16.717
		On Body	-9.569	7.122	.179	-23.540	4.401
	On Body		.[b]	.	.	.	.
		In Grave	-4.571	16.196	.778	-36.342	27.199
		Next to Body	9.569	7.122	.179	-4.401	23.540
Jewellery		In Grave	.[a]	.	.	.	.
		Next to Body	.[a]	.	.	.	.
		On Body	.[a]	.	.	.	.
	In Grave		.[b]	.	.	.	.
		Next to Body	13.905	28.822	.630	-42.632	70.441
		On Body	-.691	27.996	.980	-55.608	54.225
	Next to Body		.[b]	.	.	.	.
		In Grave	-13.905	28.822	.630	-70.441	42.632
		On Body	-14.596	9.178	.112	-32.600	3.408

	On Body		.[b]	.	.	.	.
		In Grave	.691	27.996	.980	-54.225	55.608
		Next to Body	14.596	9.178	.112	-3.408	32.600
Personal Accessory		In Grave	-31.667	43.735	.469	-117.457	54.124
		Next to Body	21.586	34.059	.526	-45.223	88.395
		On Body	29.855	34.365	.385	-37.554	97.264
	In Grave		31.667	43.735	.469	-54.124	117.457
		Next to Body	53.253	27.883	.056	-1.442	107.947
		On Body	61.522*	28.256	.030	6.096	116.947
	Next to Body		-21.586	34.059	.526	-88.395	45.223
		In Grave	-53.253	27.883	.056	-107.947	1.442
		On Body	8.269	6.753	.221	-4.978	21.516
	On Body		-29.855	34.365	.385	-97.264	37.554
		In Grave	-61.522*	28.256	.030	-116.947	-6.096
		Next to Body	-8.269	6.753	.221	-21.516	4.978
Tool		In Grave	21.250	53.565	.692	-83.822	126.322
		Next to Body	35.833	48.406	.459	-59.119	130.786
		On Body	18.929	49.591	.703	-78.349	116.206
	In Grave		-21.250	53.565	.692	-126.322	83.822
		Next to Body	14.583	24.933	.559	-34.325	63.492
		On Body	-2.321	27.162	.932	-55.602	50.960
	Next to Body		-35.833	48.406	.459	-130.786	59.119
		In Grave	-14.583	24.933	.559	-63.492	34.325
		On Body	-16.905	14.552	.246	-45.451	11.641
	On Body		-18.929	49.591	.703	-116.206	78.349
		In Grave	2.321	27.162	.932	-50.960	55.602
		Next to Body	16.905	14.552	.246	-11.641	45.451
Vessel		In Grave	.[a]	.	.	.	.
		Next to Body	.[a]	.	.	.	.
		On Body	.[a]	.	.	.	.
	In Grave		.[b]	.	.	.	.
		Next to Body	.254	21.962	.991	-42.828	43.335
		On Body	-27.246	29.409	.354	-84.935	30.443
			.[b]	.	.	.	.

	Next to Body	In Grave	-.254	21.962	.991	-43.335	42.828
		On Body	-27.500	33.877	.417	-93.953	38.953
	On Body		.[b]	.	.	.	.
		In Grave	27.246	29.409	.354	-30.443	84.935
		Next to Body	27.500	33.877	.417	-38.953	93.953
Weapon		In Grave	-50.500	37.111	.174	-123.296	22.296
		Next to Body	-53.969	34.113	.114	-120.885	12.948
		On Body	-81.413*	34.606	.019	-149.295	-13.531
	In Grave		50.500	37.111	.174	-22.296	123.296
		Next to Body	-3.469	15.671	.825	-34.209	27.272
		On Body	-30.913	16.716	.065	-63.703	1.877
	Next to Body		53.969	34.113	.114	-12.948	120.885
		In Grave	3.469	15.671	.825	-27.272	34.209
		On Body	-27.445*	8.121	.001	-43.374	-11.515
	On Body		81.413*	34.606	.019	13.531	149.295
		In Grave	30.913	16.716	.065	-1.877	63.703
		Next to Body	27.445*	8.121	.001	11.515	43.374

Based on estimated marginal means

*. The mean difference is significant at the .05 level.

a. The level combination of factors in (I) is not observed.

b. The level combination of factors in (J) is not observed.

d. Adjustment for multiple comparisons: Least Significant Difference (equivalent to no adjustments).

Edix Hill

Outliers: 4 outliers out of 250 cases; assumption met

Normal Distribution of Dependent variable: Assumption violated

Tests of Normality

	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Date	.196	250	.000	.874	250	.000

a. Lilliefors Significance Correction

Homogeneity of variances: Assumption violated

Levene's Test of Equality of Error Variances[a,b]

		Levene Statistic	df1	df2	Sig.
Date	Based on Mean	2.952	18	192	.000

	Based on Median	1.407	18	192	.131
	Based on Median and with adjusted df	1.407	18	153.950	.135
	Based on trimmed mean	2.901	18	192	.000

Tests the null hypothesis that the error variance of the dependent variable is equal across groups.

a. Dependent variable: Date

b. Design: Intercept + GraveGoodType + Location + GraveGoodType * Location

Results

Tests of Between-Subjects Effects

Dependent Variable: Date

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Corrected Model	58738.890[a]	26	2259.188	2.610	.000	.261
Intercept	8025430.697	1	8025430.697	9271.153	.000	.980
GraveGoodType	3844.443	3	1281.481	1.480	.221	.023
Location	27465.103	10	2746.510	3.173	.001	.142
GraveGoodType * Location	17477.775	13	1344.444	1.553	.102	.095
Error	166201.849	192	865.635			
Total	65630334.000	219				
Corrected Total	224940.740	218				

a. R Squared = .261 (Adjusted R Squared = .161)

Pairwise Comparisons

Dependent Variable: Date

Location	(I) Grave Good Type	(J) Grave Good Type	Mean Difference (I-J)	Std. Error	Sig.[d]	95% Confidence Interval for Difference[d] Lower Bound	Upper Bound
Animal Remains		In the Grave	.[a]	.	.	.	.
		Next to the Body	.[a,b]	.	.	.	.
		On the Body	.[a]	.	.	.	.
	In the Grave		.[b]	.	.	.	.
		Next to the Body	.[b]	.	.	.	.
		On the Body	-75.000	41.609	.073	-157.069	7.069
	Next to the Body		.[a,b]	.	.	.	.
		In the Grave	.[a]	.	.	.	.
		On the Body	.[a]	.	.	.	.
	On the Body		.[b]	.	.	.	.
		In the Grave	75.000	41.609	.073	-7.069	157.069
		Next to the Body	.[b]	.	.	.	.
Cosmetic		In the Grave	.[a]	.	.	.	.

		Next to the Body	.[a]	.	.	.	.
		On the Body	.[a]	.	.	.	.
	In the Grave		.[b]	.	.	.	.
		Next to the Body	-2.333	33.973	.945	-69.342	64.675
		On the Body	3.000	33.973	.930	-64.009	70.009
	Next to the Body		.[b]	.	.	.	.
		In the Grave	2.333	33.973	.945	-64.675	69.342
		On the Body	5.333	24.023	.825	-42.049	52.716
	On the Body		.[b]	.	.	.	.
		In the Grave	-3.000	33.973	.930	-70.009	64.009
		Next to the Body	-5.333	24.023	.825	-52.716	42.049
Dress Accessory		In the Grave	.[a]	.	.	.	.
		Next to the Body	.[a]	.	.	.	.
		On the Body	.[a]	.	.	.	.
	In the Grave		.[b]	.	.	.	.
		Next to the Body	15.750	25.480	.537	-34.506	66.006
		On the Body	36.340	21.216	.088	-5.507	78.187
	Next to the Body		.[b]	.	.	.	.
		In the Grave	-15.750	25.480	.537	-66.006	34.506
		On the Body	20.590	15.288	.180	-9.564	50.744
	On the Body		.[b]	.	.	.	.
		In the Grave	-36.340	21.216	.088	-78.187	5.507
		Next to the Body	-20.590	15.288	.180	-50.744	9.564
Fitting		In the Grave	.[a]	.	.	.	.
		Next to the Body	.[a]	.	.	.	.
		On the Body	.[a]	.	.	.	.
	In the Grave		.[b]	.	.	.	.
		Next to the Body	48.667	31.013	.118	-12.504	109.837
		On the Body	67.125*	30.327	.028	7.308	126.942
	Next to the Body		.[b]	.	.	.	.
		In the Grave	-48.667	31.013	.118	-109.837	12.504
		On the Body	18.458	12.259	.134	-5.721	42.638
	On the Body		.[b]	.	.	.	.
		In the Grave	-67.125*	30.327	.028	-126.942	-7.308
		Next to the Body	-18.458	12.259	.134	-42.638	5.721
Jewellery		In the Grave	.[b]	.	.	.	.
		Next to the Body	37.500	36.034	.299	-33.573	108.573
		On the Body	68.857*	30.114	.023	9.460	128.254
	In the Grave		.[a]	.	.	.	.
		Next to the Body	.[a]	.	.	.	.
		On the Body	.[a]	.	.	.	.
			-37.500	36.034	.299	-108.573	33.573

	Next to the Body	In the Grave	.[b]	.	.	.	.
		On the Body	31.357	21.772	.151	-11.587	74.301
	On the Body		-68.857*	30.114	.023	-128.254	-9.460
		In the Grave	.[b]	.	.	.	.
		Next to the Body	-31.357	21.772	.151	-74.301	11.587
Personal Accessory		In the Grave	.[a]	.	.	.	.
		Next to the Body	.[a]	.	.	.	.
		On the Body	.[a]	.	.	.	.
	In the Grave		.[b]	.	.	.	.
		Next to the Body	-33.857	22.241	.130	-77.725	10.010
		On the Body	-12.950	21.318	.544	-54.998	29.098
	Next to the Body		.[b]	.	.	.	.
		In the Grave	33.857	22.241	.130	-10.010	77.725
		On the Body	20.907*	9.136	.023	2.887	38.928
	On the Body		.[b]	.	.	.	.
		In the Grave	12.950	21.318	.544	-29.098	54.998
		Next to the Body	-20.907*	9.136	.023	-38.928	-2.887
Tool		In the Grave	.[a,b]	.	.	.	.
		Next to the Body	.[a]	.	.	.	.
		On the Body	.[a]	.	.	.	.
	In the Grave		.[a,b]	.	.	.	.
		Next to the Body	.[a]	.	.	.	.
		On the Body	.[a]	.	.	.	.
	Next to the Body		.[b]	.	.	.	.
		In the Grave	.[b]	.	.	.	.
		On the Body	-3.553E-15	36.034	1.000	-71.073	71.073
	On the Body		.[b]	.	.	.	.
		In the Grave	.[b]	.	.	.	.
		Next to the Body	3.553E-15	36.034	1.000	-71.073	71.073
Vessel		In the Grave	.[a]	.	.	.	.
		Next to the Body	.[a]	.	.	.	.
		On the Body	.[a]	.	.	.	.
	In the Grave		.[b]	.	.	.	.
		Next to the Body	-19.714	31.453	.532	-81.752	42.324
		On the Body	-18.333	33.973	.590	-85.342	48.675
	Next to the Body		.[b]	.	.	.	.
		In the Grave	19.714	31.453	.532	-42.324	81.752
		On the Body	1.381	20.303	.946	-38.664	41.426
	On the Body		.[b]	.	.	.	.
		In the Grave	18.333	33.973	.590	-48.675	85.342
		Next to the Body	-1.381	20.303	.946	-41.426	38.664
Weapon		In the Grave	.[a]	.	.	.	.

		Next to the Body	.[a]	.	.	.	.
		On the Body	.[a]	.	.	.	.
	In the Grave		.[b]	.	.	.	.
		Next to the Body	-26.727	22.617	.239	-71.336	17.882
		On the Body	-37.667	21.930	.087	-80.921	5.587
	Next to the Body		.[b]	.	.	.	.
		In the Grave	26.727	22.617	.239	-17.882	71.336
		On the Body	-10.939	11.260	.333	-33.148	11.270
	On the Body		.[b]	.	.	.	.
		In the Grave	37.667	21.930	.087	-5.587	80.921
		Next to the Body	10.939	11.260	.333	-11.270	33.148

Based on estimated marginal means

*. The mean difference is significant at the .05 level.

a. The level combination of factors in (I) is not observed.

b. The level combination of factors in (J) is not observed.

d. Adjustment for multiple comparisons: Least Significant Difference (equivalent to no adjustments).

Buckland

Outliers: No outliers; assumption met

Normal Distribution of Dependent variable: Assumption violated

Tests of Normality

	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Date	.272	958	.000	.878	958	.000

a. Lilliefors Significance Correction

Homogeneity of variances: Assumption violated

Levene's Test of Equality of Error Variances[a,b]

		Levene Statistic	df1	df2	Sig.
Date	Based on Mean	2.578	33	869	.000
	Based on Median	1.285	33	869	.133
	Based on Median and with adjusted df	1.285	33	808.075	.133
	Based on trimmed mean	2.564	33	869	.000

Tests the null hypothesis that the error variance of the dependent variable is equal across groups.

a. Dependent variable: Date

b. Design: Intercept + GraveGood + Location + GraveGood * Location

Results

Tests of Between-Subjects Effects

Dependent Variable: Date

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Corrected Model	273528.092[a]	39	7013.541	3.378	.000	.132
Intercept	36422643.050	1	36422643.050	17540.176	.000	.953
GraveGood	32682.127	10	3268.213	1.574	.109	.018
Location	12117.283	3	4039.094	1.945	.121	.007
GraveGood * Location	73381.222	26	2822.355	1.359	.109	.039
Error	1804501.679	869	2076.527			
Total	293466179.000	909				
Corrected Total	2078029.771	908				

a. R Squared = .132 (Adjusted R Squared = .093)

Pairwise Comparisons

Dependent Variable: Date

GraveGood	(I) Location	(J) Location	Mean Difference (I-J)	Std. Error	Sig.[d]	95% Confidence Interval for Difference[d] Lower Bound	Upper Bound
Amulet		In grave	.[a,b]	.	.	.	.
		Next to Body	.[a]	.	.	.	.
		On Body	.[a]	.	.	.	.
	In grave		.[a,b]	.	.	.	.
		Next to Body	.[a]	.	.	.	.
		On Body	.[a]	.	.	.	.
	Next to Body		.[b]	.	.	.	.
		In grave	.[b]	.	.	.	.
		On Body	35.667	52.618	.498	-67.607	138.941
	On Body		.[b]	.	.	.	.
		In grave	.[b]	.	.	.	.
		Next to Body	-35.667	52.618	.498	-138.941	67.607
Animal Remains		In grave	30.000	39.464	.447	-47.456	107.456
		Next to Body	45.000	55.810	.420	-64.539	154.539
		On Body	85.000	45.569	.062	-4.438	174.438
	In grave		-30.000	39.464	.447	-107.456	47.456
		Next to Body	15.000	50.948	.769	-84.995	114.995
		On Body	55.000	39.464	.164	-22.456	132.456

	Next to Body		-45.000	55.810	.420	-154.539	64.539
		In grave	-15.000	50.948	.769	-114.995	84.995
		On Body	40.000	55.810	.474	-69.539	149.539
	On Body		-85.000	45.569	.062	-174.438	4.438
		In grave	-55.000	39.464	.164	-132.456	22.456
		Next to Body	-40.000	55.810	.474	-149.539	69.539
Coin		In grave	.[b]	.	.	.	.
		Next to Body	-15.167	34.303	.658	-82.493	52.160
		On Body	-31.125	36.025	.388	-101.832	39.582
	In grave		.[a]	.	.	.	.
		Next to Body	.[a]	.	.	.	.
		On Body	.[a]	.	.	.	.
	Next to Body		15.167	34.303	.658	-52.160	82.493
		In grave	.[b]	.	.	.	.
		On Body	-15.958	19.950	.424	-55.114	23.197
	On Body		31.125	36.025	.388	-39.582	101.832
		In grave	.[b]	.	.	.	.
		Next to Body	15.958	19.950	.424	-23.197	55.114
Cosmetic		In grave	.[b]	.	.	.	.
		Next to Body	-51.182	47.595	.283	-144.597	42.233
		On Body	3.000	47.289	.949	-89.814	95.814
	In grave		.[a]	.	.	.	.
		Next to Body	.[a]	.	.	.	.
		On Body	.[a]	.	.	.	.
	Next to Body		51.182	47.595	.283	-42.233	144.597
		In grave	.[b]	.	.	.	.
		On Body	54.182*	18.668	.004	17.541	90.822
	On Body		-3.000	47.289	.949	-95.814	89.814
		In grave	.[b]	.	.	.	.
		Next to Body	-54.182*	18.668	.004	-90.822	-17.541
Dress Accessory		In grave	16.500	49.220	.738	-80.104	113.104
		Next to Body	15.780	20.716	.446	-24.879	56.439
		On Body	18.127	18.965	.339	-19.095	55.349
	In grave		-16.500	49.220	.738	-113.104	80.104

		Next to Body	-.720	46.471	.988	-91.929	90.489
		On Body	1.627	45.718	.972	-88.102	91.357
	Next to Body		-15.780	20.716	.446	-56.439	24.879
		In grave	.720	46.471	.988	-90.489	91.929
		On Body	2.347	9.830	.811	-16.946	21.641
	On Body		-18.127	18.965	.339	-55.349	19.095
		In grave	-1.627	45.718	.972	-91.357	88.102
		Next to Body	-2.347	9.830	.811	-21.641	16.946
Fitting		In grave	86.833*	37.207	.020	13.807	159.859
		Next to Body	72.167*	33.279	.030	6.850	137.483
		On Body	73.242*	33.184	.028	8.112	138.373
	In grave		-86.833*	37.207	.020	-159.859	-13.807
		Next to Body	-14.667	20.379	.472	-54.665	25.331
		On Body	-13.591	20.224	.502	-53.285	26.103
	Next to Body		-72.167*	33.279	.030	-137.483	-6.850
		In grave	14.667	20.379	.472	-25.331	54.665
		On Body	1.076	11.495	.925	-21.486	23.638
	On Body		-73.242*	33.184	.028	-138.373	-8.112
		In grave	13.591	20.224	.502	-26.103	53.285
		Next to Body	-1.076	11.495	.925	-23.638	21.486
Jewellery		In grave	37.262	21.672	.086	-5.274	79.798
		Next to Body	58.083*	18.603	.002	21.570	94.596
		On Body	24.806	13.866	.074	-2.410	52.021
	In grave		-37.262	21.672	.086	-79.798	5.274
		Next to Body	20.821	21.672	.337	-21.715	63.358
		On Body	-12.456	17.773	.484	-47.339	22.426
	Next to Body		-58.083*	18.603	.002	-94.596	-21.570
		In grave	-20.821	21.672	.337	-63.358	21.715
		On Body	-33.278*	13.866	.017	-60.493	-6.063
	On Body		-24.806	13.866	.074	-52.021	2.410
		In grave	12.456	17.773	.484	-22.426	47.339
		Next to Body	33.278*	13.866	.017	6.063	60.493
Personal Accessory		In grave	25.293	22.124	.253	-18.130	68.715
		Next to Body	28.601*	9.874	.004	9.221	47.980

		On Body	31.994*	9.264	.001	13.811	50.177
	In grave		-25.293	22.124	.253	-68.715	18.130
		Next to Body	3.308	20.944	.875	-37.798	44.414
		On Body	6.701	20.663	.746	-33.855	47.257
	Next to Body		-28.601*	9.874	.004	-47.980	-9.221
		In grave	-3.308	20.944	.875	-44.414	37.798
		On Body	3.393	5.916	.566	-8.218	15.004
	On Body		-31.994*	9.264	.001	-50.177	-13.811
		In grave	-6.701	20.663	.746	-47.257	33.855
		Next to Body	-3.393	5.916	.566	-15.004	8.218
Tool		In grave	-25.333	52.618	.630	-128.607	77.941
		Next to Body	-2.333	47.430	.961	-95.423	90.757
		On Body	-59.833	49.220	.224	-156.437	36.771
	In grave		25.333	52.618	.630	-77.941	128.607
		Next to Body	23.000	29.415	.434	-34.732	80.732
		On Body	-34.500	32.222	.285	-97.742	28.742
	Next to Body		2.333	47.430	.961	-90.757	95.423
		In grave	-23.000	29.415	.434	-80.732	34.732
		On Body	-57.500*	22.784	.012	-102.219	-12.781
	On Body		59.833	49.220	.224	-36.771	156.437
		In grave	34.500	32.222	.285	-28.742	97.742
		Next to Body	57.500*	22.784	.012	12.781	102.219
Vessel		In grave	48.591	26.607	.068	-3.630	100.811
		Next to Body	66.403*	24.210	.006	18.887	113.920
		On Body	63.833*	29.415	.030	6.101	121.565
	In grave		-48.591	26.607	.068	-100.811	3.630
		Next to Body	17.812	15.992	.266	-13.576	49.201
		On Body	15.242	23.127	.510	-30.149	60.634
	Next to Body		-66.403*	24.210	.006	-113.920	-18.887
		In grave	-17.812	15.992	.266	-49.201	13.576
		On Body	-2.570	20.324	.899	-42.460	37.320
	On Body		-63.833*	29.415	.030	-121.565	-6.101
		In grave	-15.242	23.127	.510	-60.634	30.149
		Next to Body	2.570	20.324	.899	-37.320	42.460
Weapon		In grave	1.000	49.220	.984	-95.604	97.604

		Next to Body	25.288	19.647	.198	-13.273	63.850
		On Body	26.500	21.481	.218	-15.661	68.661
	In grave		-1.000	49.220	.984	-97.604	95.604
		Next to Body	24.288	46.005	.598	-66.005	114.582
		On Body	25.500	46.818	.586	-66.389	117.389
	Next to Body		-25.288	19.647	.198	-63.850	13.273
		In grave	-24.288	46.005	.598	-114.582	66.005
		On Body	1.212	12.462	.923	-23.247	25.670
	On Body		-26.500	21.481	.218	-68.661	15.661
		In grave	-25.500	46.818	.586	-117.389	66.389
		Next to Body	-1.212	12.462	.923	-25.670	23.247

Based on estimated marginal means

*. The mean difference is significant at the .05 level.

a. The level combination of factors in (I) is not observed.

b. The level combination of factors in (J) is not observed.

d. Adjustment for multiple comparisons: Least Significant Difference (equivalent to no adjustments).

Mucking

Outliers: No outliers; assumption met

Normal Distribution of Dependent variable: Assumption violated

Tests of Normality

	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Date	.266	563	.000	.789	563	.000

a. Lilliefors Significance Correction

Homogeneity of variances: Assumption violated

Levene's Test of Equality of Error Variances[a,b]

		Levene Statistic	df1	df2	Sig.
Date	Based on Mean	3.078	19	486	.000
	Based on Median	1.298	19	486	.179
	Based on Median and with adjusted df	1.298	19	437.721	.179
	Based on trimmed mean	3.041	19	486	.000

Tests the null hypothesis that the error variance of the dependent variable is equal across groups.

a. Dependent variable: Date

b. Design: Intercept + GraveGood + Location + GraveGood * Location

Results

Tests of Between-Subjects Effects

Dependent Variable: Date

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Corrected Model	54528.862[a]	22	2478.585	2.194	.001	.090
Intercept	19480330.711	1	19480330.711	17244.309	.000	.973
GraveGood	33248.013	8	4156.002	3.679	.000	.057
Location	1941.685	2	970.843	.859	.424	.004
GraveGood * Location	18559.589	12	1546.632	1.369	.177	.033
Error	549018.281	486	1129.667			
Total	138420248.000	509				
Corrected Total	603547.143	508				

a. R Squared = .090 (Adjusted R Squared = .049)

Pairwise Comparisons

Dependent Variable: Date

Grave Good	(I) Location	(J) Location	Mean Difference (I-J)	Std. Error	Sig.[d]	95% Confidence Interval for Difference[d] Lower Bound	Upper Bound
Coin	In Grave	Next to Body	.[a]	.	.	.	.
		On Body	.[a]	.	.	.	.
	Next to Body	In Grave	.[b]	.	.	.	.
		On Body	12.000	41.164	.771	-68.882	92.882
	On Body	In Grave	.[b]	.	.	.	.
		Next to Body	-12.000	41.164	.771	-92.882	68.882
Cosmetic	In Grave	Next to Body	.[a]	.	.	.	.
		On Body	.[a]	.	.	.	.
	Next to Body	In Grave	.[b]	.	.	.	.
		On Body	-25.429	21.383	.235	-67.444	16.587
	On Body	In Grave	.[b]	.	.	.	.
		Next to Body	25.429	21.383	.235	-16.587	67.444
Dress Accessory	In Grave	Next to Body	34.100	25.301	.178	-15.613	83.813
		On Body	38.641	23.925	.107	-8.369	85.651
	Next to Body	In Grave	-34.100	25.301	.178	-83.813	15.613
		On Body	4.541	9.105	.618	-13.348	22.430
	On Body	In Grave	-38.641	23.925	.107	-85.651	8.369
		Next to Body	-4.541	9.105	.618	-22.430	13.348

Fitting	In Grave	Next to Body	-4.583	20.197	.821	-44.268	35.102
		On Body	-6.838	18.678	.714	-43.538	29.861
	Next to Body	In Grave	4.583	20.197	.821	-35.102	44.268
		On Body	-2.255	13.855	.871	-29.479	24.969
	On Body	In Grave	6.838	18.678	.714	-29.861	43.538
		Next to Body	2.255	13.855	.871	-24.969	29.479
Jewellery	In Grave	Next to Body	.[a]	.	.	.	.
		On Body	.[a]	.	.	.	.
	Next to Body	In Grave	.[b]	.	.	.	.
		On Body	-3.229	15.779	.838	-34.233	27.776
	On Body	In Grave	.[b]	.	.	.	.
		Next to Body	3.229	15.779	.838	-27.776	34.233
Personal Accessory	In Grave	Next to Body	91.526*	34.050	.007	24.623	158.429
		On Body	96.316*	33.831	.005	29.843	162.789
	Next to Body	In Grave	-91.526*	34.050	.007	-158.429	-24.623
		On Body	4.789	6.678	.474	-8.331	17.910
	On Body	In Grave	-96.316*	33.831	.005	-162.789	-29.843
		Next to Body	-4.789	6.678	.474	-17.910	8.331
Tool	In Grave	Next to Body	-63.500	41.164	.124	-144.382	17.382
		On Body	-30.500	36.304	.401	-101.831	40.831
	Next to Body	In Grave	63.500	41.164	.124	-17.382	144.382
		On Body	33.000	27.443	.230	-20.921	86.921
	On Body	In Grave	30.500	36.304	.401	-40.831	101.831
		Next to Body	-33.000	27.443	.230	-86.921	20.921
Vessel	In Grave	Next to Body	-3.446	11.155	.757	-25.364	18.471
		On Body	.[b]	.	.	.	.
	Next to Body	In Grave	3.446	11.155	.757	-18.471	25.364
		On Body	.[b]	.	.	.	.
	On Body	In Grave	.[a]	.	.	.	.
		Next to Body	.[a]	.	.	.	.
Weapon	In Grave	Next to Body	5.181	8.916	.561	-12.337	22.700
		On Body	-5.483	9.703	.572	-24.547	13.581

	Next to Body	In Grave	-5.181	8.916	.561	-22.700	12.337
		On Body	-10.665	9.916	.283	-30.148	8.818
	On Body	In Grave	5.483	9.703	.572	-13.581	24.547
		Next to Body	10.665	9.916	.283	-8.818	30.148

Based on estimated marginal means

*. The mean difference is significant at the .05 level.

a. The level combination of factors in (I) is not observed.

b. The level combination of factors in (J) is not observed.

d. Adjustment for multiple comparisons: Least Significant Difference (equivalent to no adjustments).